GUIDE TO **RENOVATING** YOUR HOME

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Working exclusively with **LABC** right across England and Wales our products and services reach **millions of homeowners** who are actively involved in projects to renovate, redesign, convert or even build their own homes. We provide **help** and **support**, as well as **technical guidance** and know how, across a variety of media, directing homeowners to Local Authority Building Control.

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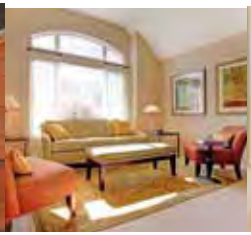
After reading this guide, should you wish to proceed with a project requiring Building Regulations Approval, please ensure that you use London Borough of Barnet Building Control Services. This is because we provide an independent, impartial and publicly accountable service which is carried out by a team of experienced surveyors with unrivalled local knowledge. The service is non-profit making and the standards will be implemented fairly and professionally.



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Designed and published by LABC Publishing (part of zinc media), Kings House, Royal Court, Brook Street, Macclesfield, Cheshire SK11 7AE.
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RE (Regional Enterprise) Limited, or Re, is the Joint Venture company that is playing a key role in the continuing story of Barnet's regeneration

Re is a partnership between the London Borough of Barnet and Capita Plc. that began operations on 1st October 2013 bringing together:

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- Environmental Health
- Highways: Network Management
- Highways: Strategy
- Highways: Traffic & Development
- Highways: Transport and Regeneration
- Land Charges
- Planning and Development Management
- Regeneration
- Strategic Planning
- Trading Standards and Licensing

At Re we want to improve residents' experience, enhance the quality of services and meet efficiency targets. We will develop, enhance, and protect Barnet's built environment, while minimising the cost of these services to residents. Working together with Barnet Council, we will support the financial and economic development of the borough.

Re now deliver Building Control Services on behalf of Barnet whilst continuing to provide the customer focused service expected by our clients. We are striving for further improvements in service delivery, ensuring a safe and sustainable built environment, in conjunction with enhancing the scope of our services.

Through Re, our joint venture partnership, we offer a number of additional services to help you. We can act on your behalf on party wall matters and assist you with the design of your project including carrying out surveys, producing any necessary drawings and structural calculations for both planning and building control applications and submit them on your behalf.

The Re approach to public services is becoming an increasing popular alternative, with many Local Authorities now considering the benefits of public/private sector partnership in order to maintain and improve service quality whilst optimising cost effectiveness.

Further information and advice can be obtained from us on 020 8359 4500 or email us at building.control@barnet.gov.uk or check out our website www.re-limited.co.uk

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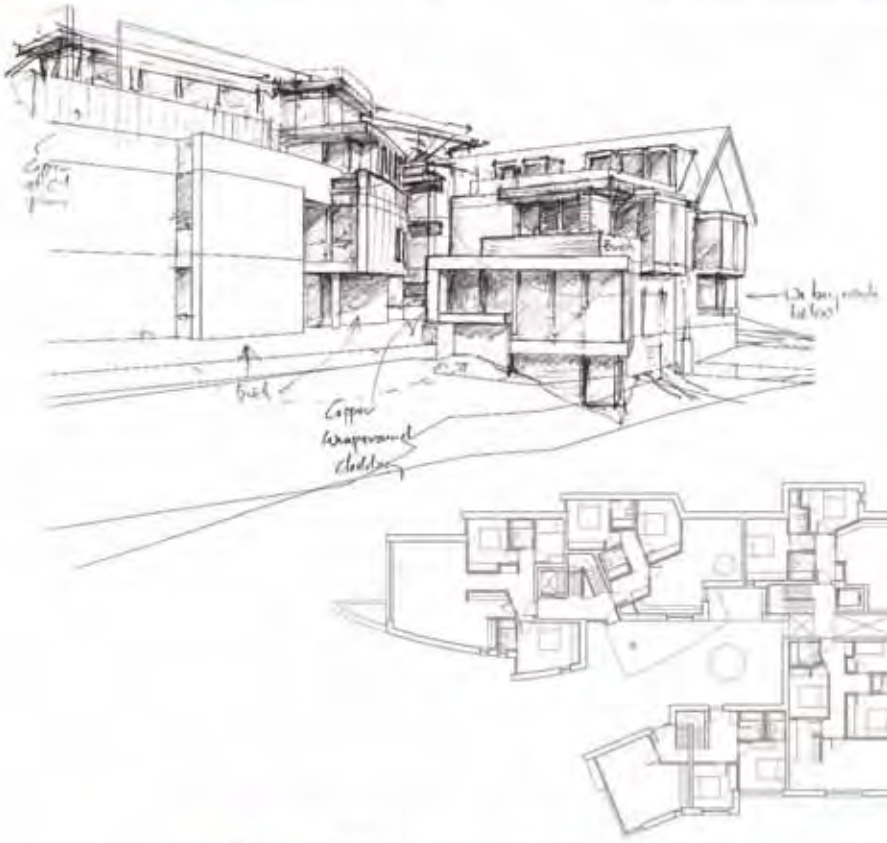

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INTRODUCTION

Renovating a residential property can be a hugely rewarding experience. This guidebook takes you through the process of improving your home by making the most of the space you've already got.

It is not a substitute for professional advice but aims to show how your project will be affected by the Planning and Building Regulations. The guide is divided into chapters that contain advice about popular projects, we will explain whether you're likely to need Planning Permission or Building Regulations consent.

- If you want confirmation your scheme does not need planning permission, contact our Development Enquiry Centre on 020 8359 3000 or email us at planning.enquiry@barnet.gov.uk or download an enquiry form from our website www.barnet.gov.uk/planning
- If you want confirmation your scheme does not need building regulations consent contact our Building Control team on 020 8359 4500 or email us at building.control@barnet.gov.uk or visit our website www.barnet.gov.uk/building-control

Further advice is also available from the Planning Portal
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Local Authority Building Control

All local authorities in England and Wales are part of LABC, which is the UK's largest building control network. LABC is the member organisation representing the 320 local authority building control departments comprising over 3,000 professional surveyors and support staff and LABC is, by far, the largest building control provider in the UK.

You can trust LABC

Local authority building control teams are always available and work with householders, architects, builders and trades people to make sure work is reported and completed correctly. We are independent and can reassure you that work complies with the Building Regulations.

This is usually a straightforward, cooperative and easy process. For householders it is important because it means you get an independent check on the work being carried out. When it is all finished to the right standards, we issue a Completion Certificate which is an important document that will be required should you ever move home.

Building Control is the householder's responsibility

It is the householder (the property owner) who is legally responsible for obtaining Building Control approval. Very often architects and builders will handle this for you. But you should check that it is being done and ask to use your local authority team who are independent, have local knowledge of sites and buildings and are always available to protect your interests should issues arise.

What are the Building Regulations?

If you are considering undertaking any development you must consider whether the project will need to have planning permission and/or a Building Regulations application. These are two separate applications and must be applied for individually.

Building Regulations are the national standards in England and in Wales that apply to most types of building work, whether in homes or commercial properties. They ensure that the environment in which we all live is a safe and healthy place and that buildings are sustainable, energy efficient and provide easy access for young, old, sick or disabled people. Building Control inspects and approves plans and building work.

How to make a Building Control application

Remember that Building Control is different to 'planning' and requires a separate application.

There are two types of Building Control applications. For larger projects, where you have plans drawn up, you make a 'Full Plans' application. However, for small quick projects, a 'Building Notice' may be used by your trades person or builder.

It is easy; you simply go to your local authority website and search for Building Control. Then look for "applications". Or you telephone or visit your council. Alternatively, go to the national LABC website www.labc.co.uk and put in your postcode – this will then provide the contact details for your local authority team.

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PLANNING YOUR PROJECT

Renovating your property makes a lot of sense when you consider that the alternative option of moving house can typically cost £20,000 or more wasted in fees and taxes – money that could be spent transforming your present home.

But there is a potential downside. Embarking on major works like taking down walls, or re-fitting kitchens and bathrooms can go horribly wrong if they're not planned properly.

Planning ahead

Whatever type of project you're considering, the key to success is thinking it through in advance – checking whether the proposed works will require Planning or Building Regulations consent, finding a good builder and, crucially, drawing up a realistic budget. Time spent at this stage can save a huge amount of heartache and expense further down the line. After all, it's a lot easier to move a wall on a drawing than it is later on site!

Minimising disturbance

Some improvements cause little or no upheaval and can be done whenever the fancy takes you – such as insulating the loft. Other projects, like decorating or re-fitting a bathroom can be done on a room by room basis. But anything that's likely to generate lots of dust, mess and noise, such as sanding, drilling or taking down ceilings, will need

What do you want to achieve?

There are 3 main reasons for renovating, all of which are looked at in more detail later in this guide:

* More space

It's often possible to improve the layout of your home. For example, traditional dining rooms are rarely used today, so where there's a small adjoining kitchen it can make sense to 'open it up' to create a stylish modern kitchen/diner. Or sometimes a large bedroom can be successfully divided into two single rooms. Or you could add space by building an extension or converting a loft or an underused garage.

* Improved facilities

If you can no longer face that old avocado bathroom suite, or the kitchen units are falling apart, re-fitting them should be money well spent. Most properties would benefit from improvements like thicker insulation; draught-free windows and doors; and perhaps a more efficient heating system. Even a spot of decoration and a few extra plug sockets can make all the difference without spending a fortune.

* Repairs

If there's water dripping down your walls, it's a pretty good reason for a spot of renovation work. But whilst you're having repairs carried out, it can be a good opportunity to make some other improvements, such as decoration, draught-proofing or lagging any pipework in the vicinity.

Why work with us?

We have a proven track record of thorough services and effective problem solving. We work proficiently and collectively ensuring ultimate customer satisfaction.
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careful planning. Trying to totally refurbish the whole building whilst remaining in occupation isn't normally advisable. The ideal scenario is where you're buying a house to 'do up' and have the luxury of living elsewhere for a few weeks.

"WITH A SMALL-ISH BUDGET YOU CAN WORK WONDERS SIMPLY WITH A SPOT OF RE-DECORATION OR BRIGHTENING UP YOUR ROOMS WITH SOME NEW LIGHTING"

Major works can often be 'piggy-backed' on other improvements that were due to be carried out anyway, helping to share the cost and minimise disruption. So, for

example, when you're next planning to re-decorate, it can make sense to carry out wall insulation at the same time (which is likely to need Building Regulation consent.

Budgeting and renovation costs

No matter how carefully you budget for refurbishment works, there's always a degree of uncertainty because at any time you could stumble upon an expensive hidden defect. A rotten floor joist, for example, may only become evident once an old bath has been removed, adding to the cost. So it's normally a good idea to include a contingency sum of at least 10%. As we know from TV property shows, it's very easy at this stage to be overly optimistic, only to come a cropper later on. So when budgeting try to be realistic.

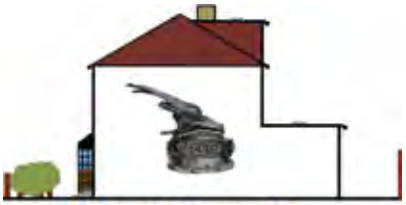
Labour costs will of course be a major component of the total spend, so if you have the necessary skills to do some of the work yourself it can generate significant savings. When it comes to materials, researching the cost is fairly easy to do online, but don't forget to factor in delivery charges for bulky items and plan ahead to allow for lead-in times for items like special glazing, kitchen units and bathroom suites.

When budgeting, consider whether any existing materials (e.g. old slates) can be salvaged and re-used or sold. Also don't forget to include fees for surveyors, structural engineers and for Planning or Building Regulations applications.

When employing builders, bear in mind that small one-off jobs are proportionately dearer. Unit costs are less if the job is part of a larger project, where the cost of plant hire and scaffolding can be shared between jobs. Above all, always be clear about what you're actually paying for. Does the price include VAT, scaffolding, carting away all rubbish and cleaning up afterwards?

Renovating on a budget

A lot can be done without breaking the bank. If your kitchen is looking tired, it shouldn't cost much just to replace the unit doors or just paint them – much cheaper than installing a totally new kitchen. If the units are in fairly good condition but look dated, just replace the doorknobs or handles. Fitting new taps can make a big difference. Another economical trick is to fit good solid worktops to existing units. To spruce up old bathrooms, showers can be de-scaled and tiles re-grouted for next to nothing.



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With a small-ish budget you can work wonders simply with a spot of re-decoration or brightening up your rooms with some new lighting. Adding a skylight or solar tube can transform a dingy room by creating a light and airy interior. With a larger budget re-fitting kitchens and bathrooms or changing the layout can transform a property, as can a well designed conservatory.

Minimising VAT

There are a number of situations where reduced VAT can apply to residential properties. Perhaps the most obvious exemption is where you employ individuals or small firms with a low annual turnover below the VAT threshold (£77,000 at the time of writing) since they are quite legitimately not required to charge VAT. But your builder will still have to pay VAT on materials and plant hired and this cost will be passed on to you. Where you are charged VAT, always check the necessary VAT number is shown on the invoice.

Another useful saving can legitimately be made where you are renovating a residential property that has been left empty for at least two years, since it will be eligible for a reduced VAT rate of five per cent. Better still, for properties empty for more than 10 years there is no VAT – i.e. the full amount should be recoverable.

Does the project add value to your property?

Some improvements add more value than others. Much will depend on the extent to which it overcomes a major drawback, such as enlarging a small kitchen or provision of parking where none existed previously.

High value improvements, where all or most of the cost is typically recovered, includes things like re-decorating in neutral tones and anything that improves 'liveability' – i.e. space, layout and style. So adding an extra double bedroom, converting the loft or building an extension is normally money well spent.

Medium value improvements, where about half of the cost is typically recovered, include projects like re-fitting kitchens and bathrooms. But when it comes to improvements like installing double glazing, building a swimming pool or converting an integral garage, you may only recover less than a quarter of the cost in the value they add to the property.

Some works can actually damage the value, such as ripping out period fireplaces, historic tiling or antique cornicing. Restoring original features like sash windows can add considerably more value than fitting cheap replacements and stripping floorboards and restoring old doors etc to make the most of a property's history can boost its appeal.

But perhaps the best use of money is to fix any obvious defects, such as ensuring the building is structurally sound and weathertight. Although not the most glamorous end of the renovation world, it's always a good idea to carry out basic repairs – such as touching up paintwork, filling cracks and straightening cupboard doors. Something as simple as re-sealing mouldy joints around baths and showers can work wonders, as can mending dripping taps and replacing the odd cracked pane of glass.

FUNDING YOUR PROJECT

There are a number of options when it comes to raising the funding to pay for home improvements:

Savings

If you've got some savings, the chances are it'll be earning a pittance in miserly interest rates. Using it to fund home improvements that add value to your home can be a good way of financing a project.

Bank or Building Society loans

Mortgages are normally the cheapest and best way to borrow money. Mortgage lenders know that home improvements normally increase the value of your home (i.e. their security) and are generally sympathetic to further advances for this purpose, so it may justify borrowing a bit more against it on the mortgage.

The worst method of funding is with credit cards and unsecured loans as the rates charged can be extortionate.

Grants and subsidies

From time to time sources of grant funding pop up. But these tend to be targeted at qualifying households, perhaps contingent upon being within a specific age or income group. Local authority grants are sometimes available for provision of special needs facilities, such as bathrooms with disabled access. Even for owners of Listed buildings only in exceptional cases are grants available for urgent repairs (e.g. from English Heritage).

FITs and RHI

Homeowners who generate their own electricity qualify for an income on top of savings in energy bills, known as Feed In Tariffs (FITs). At the present time this mainly applies to solar PV panels (PhotoVoltaic) or wind turbines and reduces the time it takes for the installation costs to pay back the original outlay.

Renewable Heat Incentives (RHI) are currently proposed for energy generated from air/ground-source heat pumps, biomass boilers and solar thermal hot water panels. Check on www.decc.gov.uk for the date when RHI will apply to residential properties.

Insulation grants

One area where incentives are periodically made available is for energy efficiency improvements, such as loft and cavity wall insulation. These works have the added advantage of generating future savings from lower fuel bills.

The Energy Company Obligation (ECO) for example requires suppliers to provide assistance to low income households and those living in 'hard-to-treat' properties (e.g. houses with solid walls), so this may be worth investigating. Although government funded loft and cavity wall insulation works have on occasion been provided free or subsidised for certain households, sources of state funding are subject to change, so the best advice is to check the latest with your energy provider.

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CONSENTS YOU MAY NEED

A surprising amount of home improvement work requires consent of one type or another. If you steam ahead without checking this it can cause serious problems further down the line when you come to sell. Worse, if the work turns out to be unsafe or dangerous it can result in hefty fines and prosecution, or even serious injury or death. So it's worth taking a few minutes at the outset to see what's required.

Landlord's consent

If you own a flat, the lease will normally stipulate that you need to notify the Freeholder or their Managing Agent before embarking on any major improvements. Most leases provide that works to the exterior of the building, including windows and doors, along with improvements to any common areas are the responsibility of the Freeholder to organise. Although most interior improvements, such as re-fitting kitchens and bathrooms, shouldn't require prior notification, any proposed structural work like taking down internal walls or chimney breasts must not be carried out without their consent.

If you rent a property then any sort of improvement – even decoration – will need to be agreed with the owner in advance – who in most cases should welcome the proposal – and may even contribute to the cost.

Planning permission

Most internal residential renovation work isn't likely to concern Planners. Where planning can become an issue is for some major external work, where the effect on adjoining properties needs to be considered, such as raising the height of the roof. But it's normally possible to carry out a substantial amount of work without the need for Planning consent. Even building smaller extensions is usually permissible under the Permitted Development Rules (PDRs), although these allowances only apply to houses, not to flats and other buildings.

If you want confirmation your scheme does not need Planning permission, contact our Planning office.

Further advice is also available from the Planning Portal www.planningportal.co.uk

Planning rules are far stricter in Conservation Areas, where any significant alterations that are visible to the 'principal elevation' (normally the front) will need consent, such as new windows or doors. But the bottom line is, it's always best to check first.

"IF YOU RENT A PROPERTY THEN ANY SORT OF IMPROVEMENT – EVEN DECORATION – WILL NEED TO BE AGREED WITH THE OWNER IN ADVANCE"

Where a property is Listed it will enormously restrict your freedom to carry out all but the most minor changes. Any proposed works, including internal alterations – sometimes even decoration – will need Listed Building Consent. However like-for-like repairs do not usually require consent. But this can be something of a grey area, so the best advice is to consult the Conservation Officer at your local authority. Planning consent is also required for converting a residential property into separate dwellings or for any proposed change of use, such as running a business.

Once planning consent has been granted it normally remains valid for a period of 3 years, so if work has not been 'substantially commenced' during that time, a fresh application will need to be made.

Building Regulations

The Building Regulations are detailed technical standards set by the government, primarily to make sure buildings are safe and energy efficient. There is a legal requirement on both the builder and the owner of the property to comply with the Building Regulations. Failure to do so can result in prosecution and penalties.

A Building Regulations application is required for more types of work than you might imagine. In addition to regulating matters such as structural alterations, fire safety, drainage and major new building work (e.g. extensions), the Building Regulations are today increasingly focussed on the conservation of fuel and power, for example by improving insulation. 'Part L1B' of the Building Regulations stipulates that where significant areas of the building's walls, roof or floors (known as the 'thermal envelope') are due to be renovated, the work will need to meet minimum insulation standards. For example, replacing an old felt covering to a flat roof can become a bigger task because the Building Regulations require you to upgrade the insulation to the roof as part of the job if you are also replacing the actual roof decking. Similarly, maximum permitted heat loss standards apply for fitting replacement windows and external doors. The Building Regulations, as they apply to individual projects, are explained later in this guide.

If you want confirmation your scheme does not need building regulations, contact your building control department.

Self certification

Approval of works such as electrical wiring, replacement windows and heating installations is often dealt with by approved installers who are registered under one of the government approved Competent Person Schemes and they are known as 'competent persons' who can certify that work has been carried out in compliance with the Building Regulations. Certain trade bodies are allowed to 'self-certify' their members' work and issue completion certificates, for example:

1. FENSA – replacement windows should be installed by a company registered with Fenestration Self Assessment (FENSA) who will be able to self-certify the compliance of the works (not required where only the glass is being replaced).

2. GAS SAFE – registered contractors can issue certificates for installations and alterations to gas, hot water and heating systems. The contractor must be a registered member, not just a service engineer.

3. OFTEC – the equivalent of Gas Safe for oil fired boilers and appliances.

4. HETAS – the equivalent of Gas Safe for solid fuel burning boilers and appliances.

5. Electrical Contractors – must be registered under one of the 'Part P' schemes in order to issue certificates for domestic electrical work.

6. Competentroofer – Contractors under this scheme can carry out works to your roof either full or partial replacement.

7. CERTASS – Contractors registered with CERTASS can issue certificates for replacement windows

The inspection process

A Building Control Surveyor will visit your property at key stages. These inspections are usually arranged via your builder. If during the project you have any specific concerns about the work, we may be able to help.

Completion certificates

The completion certificate is an important legal document. Please ensure that we are called out at the end of the project to carry out our final inspection. Once the work has been satisfactorily completed the certificate can be issued, confirming compliance with the Building Regulations. You will need this certificate when you come to sell or re-mortgage your property, so keep it in a safe place.

Tips for using Self Certified Contractors

1. Ensure the contractor is registered for the specific type of work they're undertaking.

2. At the end of the job make sure they issue you with a Completion Certificate before settling the bill in full. This confirms the work complies with the Building Regulations.

3. If there's any doubt about the contractor's registration and membership get in touch with their trade association or contact Building Control before confirming their appointment.

Party Wall Act

If you need to carry out building work to a wall shared with your neighbours, the Party Wall Act comes into play. This is a legal requirement that is totally separate from Planning and Building Control.

As well as affecting party walls between adjoining terraced and semi detached houses, it can also apply where you want to excavate foundations within 3m of an adjoining property (in some cases within 6m) and can also apply to boundary walls between gardens. This normally means having to appoint a Party Wall Surveyor. Further info can be obtained on **www.planningportal.co.uk**

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How can Building Control assist with selling your home?

Moving house is a stressful enough experience without major problems arising at the last minute. But this sometimes happens where Building Regulations consent wasn't obtained. If alterations have been carried out without approval, the assumption is they are potentially dangerous. If a completion certificate isn't available to confirm compliance, this will come to light during the purchasers' solicitor investigations, or the buyer's surveyor will flag it up.
This can result in serious delays and is likely to worry buyers, even causing the sale to fall through.

"I have Building Regulations approval but no completion certificate".

Sometimes there is proof that a Building Regulations application was made for the work, but no completion certificate to show it was satisfactorily completed. In such cases the best course of action is to contact Building Control and arrange a retrospective completion inspection. A new completion certificate can be issued upon satisfactory inspection of the work.

"I didn't know I needed to make a Building Regulations application"

Where work has been carried out in the past, there may be no record of a Building Regulations application having been made, because the homeowner may have been unaware that it was required. In such cases an application for a 'regularisation certificate' can be made providing the work was carried out since 1985. This is basically a retrospective Building Regulations application. But because the work will have been finished, some physical opening up may be necessary to establish that it is structurally sound and confirm compliance. Please contact the Building Control team to discuss the work that has been carried out and we will confirm whether you need to make a formal application for regularisation (which then requires the owner to submit an application form with the necessary fee so that a detailed assessment can be made). Once regularisation is recorded on file, it will show up on future searches by prospective purchasers confirming that work has been carried out in compliance with Building Regulations.

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GETTING YOUR PROJECT STARTED

To ensure that your project is a success there are some important decisions that need to be made at the outset. If the work isn't being done on a DIY basis, you will need to find the right builder and agree a price. In more complex cases professional advice may also be needed. Also, if a Building Regulations application or a planning application need to be made, it should be submitted as far in advance as possible.

Applying for consents

Planning

Where a planning application needs to be made, it's always worth getting in touch with the Planners to talk through your proposals in advance. In most cases it's also worth discussing your plans with an architect or surveyor. Then you will need to submit the completed application forms, together with the necessary drawings and appropriate fee, to the Development Control Department at the local authority. Once your application has been accepted, you normally need to allow a period of eight weeks for it to be processed and, hopefully, recommended for approval.

Building Regulations

For any structural alterations or new building work the application will normally require detailed drawings accompanied by engineer's calculations. Unlike planning drawings, these need to include detailed information confirming compliance, such as specifying precise details of openings and the strengths and thermal performance of materials.

There are two ways of making an application – a Full Plans application or a Building Notice.

Full Plans Application

With this method, your designer will need to submit drawings of the proposed work, together with supporting information, a completed application form and the appropriate fee. We will then check the details and, following any necessary clarification, will normally issue a conditional Approval letter. Because this method encourages applicants to think through the details of the project in advance, it can help reduce the risk of problems arising further down the line.

If you are confident that your builders are complying with Building Regulations you may start work at your own risk at least 48 hours after the application has been received although it's normally advisable to wait two to three weeks until details have been checked and you have discussed the project with your appointed Building Control Officer. Our team of surveyors will then liase with you or your builder and inspect the work at key stages as it progresses on site. When the project is satisfactorily completed, you will be provided with a completion certificate to show that the work has been inspected and that it complied with the Building Regulations as per the approved drawings.

The application itself should at the latest take no more than five weeks and in the vast majority of cases significantly less than this. As with planning consent, once approval has been granted you need to use it and start work within a three year period, or you could lose it.

Building Notice Application

With this method you are basically making a promise up front that you will comply with the Building Regulations on site, rather than submitting detailed drawings to prove it in advance. Work can commence 48 hours after the notice has been accepted.
One of our Building Control Surveyors will visit the site when notified to agree how the work should be carried out and confirm the stages for inspection. Sometimes further information is required, such as structural calculations or drawings.

The big risk with this method is that a site inspection could later uncover something that doesn't comply. Also, if a problem isn't picked up until late in the day, it could involve considerable extra work for it to be taken down and re-built. All of which would prove highly disruptive, not to say expensive. So it is best suited for smaller projects carried out by a competent builder. It is not recommended unless your designer and builder are highly experienced and fully aware of Building Regulations requirements. With this method no formal approval of plans is issued and instead work is approved on site as it progresses. When satisfactorily completed a completion certificate will be issued.

Professional advice

A building surveyor or architect can be appointed to draw up plans, write a specification and obtain quotes or tender the job. For larger projects they should be able to perform the role of project manager and administer the contract. Also, if you're not sure which bits of a property genuinely need renovating, or merely look scruffy and are actually perfectly sound, a Surveyor should also be able to advise you – avoid sales-driven advice.

To find the right people, start by checking out the websites of the professional and specialist groups. Above all, pick someone you feel comfortable working with and check they have the necessary professional indemnity insurance.

Qualified architects are members of RIBA and Chartered Surveyors are members of RICS. To design structural alterations you normally need to appoint a Structural Engineer with professional qualifications such as MICE or MIStructE.

DIY

Some works are excluded or restricted from the DIY sphere by the Building Regulations, such as any gas fitting work and much of the electrics. Otherwise if you're planning to tackle the work yourself it's important to be realistic about how much you can achieve. It's not unusual to encounter something unexpected on renovation projects and it's very easy to underestimate the time a job will take – so it's not a bad idea to double your first estimate of projected timescales!

Choosing a builder

The success of any building project is to a large extent down to your choice of builder. But anyone with a van can offer building services, so it's essential to do your homework. Local recommendations are usually best, so be sure to follow up recommendations from friends or neighbours. Architects and surveyors can

be a useful source of advice as they may have worked with contractors and key trades on previous jobs.

You also need to decide whether to appoint a main contractor or to directly employ individual trades. Either way, it's important that builders come with good references. However the best people are often booked up weeks or months in advance.

Quotes and estimates

A quote is a firm price that is legally binding – a fixed sum for a fixed amount of work. Unless you request extras, or agreed to any changes, this is the amount you should end up paying. An estimate, on the other hand, is nothing more than the builder's best guess as to what the cost might eventually be.

For smaller, straightforward jobs a brief, clearly written description and a scale drawing may be all that's required for a builder to quote against. Where you're employing individual trades, the best arrangement is to confirm acceptance of their written quote in writing. For smaller jobs, a simple exchange of letters and copies of approved plans is often sufficient. The letter should include all the key points such as the agreed price, the payment terms and the start and finish dates. For larger projects it's a good idea to type out a specification, which is basically a long 'shopping list' stating each separate piece of work you want done against which the contractor has to price.

To select a contractor for a major project it's advisable to send out tenders to about four local firms including a copy of the Building Control approved drawings and a suitable contract such as www.fmb.org.uk/find-a-builder/free-contracts/

All you need to do is to fill in the key details, such as the agreed price, the start and completion dates and payment terms. Then both parties sign and keep a copy.

Managing the project

The key to a successful outcome is to specify clearly at the outset precisely what you want done and ensure this is clearly communicated to the people doing the job. It also pays to build some slack into your programme, whilst keeping the builder focussed on completion by the agreed date.

Carefully managing your finances is also of prime importance. No one does their best work if they're not paid on time. But never pay for work in advance – in case the builder goes bust or vanishes without trace!

It's a good idea to agree with the contractor to keep a small retention (up to 5% of the total cost of each payment). The retention is only released after the end of the project when your 'snagging list' of all the minor outstanding bits has been completed.

When the project is finished it's important to obtain the completion certificate from Building Control – this confirms that the work complies with Building Regulations. But the rooms do not need to be decorated to issue a completion certificate – as early as second fix stage is normally OK. So you will still need to ensure snagging and decoration etc. are completed to your satisfaction.

Domestic arrangements

With most jobs there will be a fair amount of upheaval, mess and noise. Unless you've taken suitable measures to protect and cover furniture and carpets etc, this can cause tempers to fray!

For major works, particularly where a property will be vacant for any length of time, make a point of notifying your insurers in writing in advance so they can't wriggle out of a claim should you need to make one.

If you're doing some of the work yourself, be sure to wear protective clothing, goggles, masks, gloves and steel-capped boots, plus a hard hat where needed. Above all, take extra care when working at height and ensure scaffolding is correctly erected. Also, if you haven't got them already, fitting smoke alarms is probably the single most effective survival measure, as well as one of the cheapest.

Tips For Employing Builders

- Get at least three written quotes (not estimates). For larger jobs this should be priced against an itemised specification that you've provided. Get the cost broken down into as much detail as possible, so you can see what you're getting and use it as a guide for any additional works.
- When comparing quotes, check for hidden extras and don't be tempted to automatically choose the lowest price.
- Check if VAT is included in the quote. Individual trades may have a turnover that's below the VAT threshold and quite legitimately not need to charge VAT. If the works are to a Listed building VAT may not apply.
- Ask for references from previous jobs and visit them.
- Never pay up front. Agree payment stages in advance and only pay for completed work.
- Be very clear about precisely what work you want done. Don't keep changing your mind later, on site, or you will be charged for lots of expensive extras.
- Use a written contract with firms or detailed letters with trades.
- Confirm the start and finish dates in writing, along with the agreed price and arrangements for payment.
- Confirm exactly what's included in the price – e.g. does it include lifting and re-laying carpets, moving furniture, scaffolding, clearing rubbish, skip hire and cleaning up?
- Check that the builder is insured for risks to persons and property. Ask for copies of certificates for full public liability insurance and (for main contractors) employers' liability cover.

CONSERVATORIES

Conservatories are sometimes constructed as part of a renovation project and are a relatively inexpensive way of adding extra space to your home.

Consents

Planning

Conservatories can often be built without the need for a full planning application under the Permitted Development Rules (PDRs), subject to meeting a number of conditions (which also apply to extensions). The maximum depth to the rear of the house allowed under these rules is six metres (or eight metres for detached houses), with a height limit of four metres and no wider than the existing rear elevation – which in most cases should provide ample space. But before proceeding, in some cases you will first need to write to your Local Planning Authority with a description of the proposal. They will then notify adjoining neighbours who will have 21 days to make an objection. For full details go to www.rightsurvey.co.uk/planning.html

There are some important exceptions to these rules, so always check with your local Planning Authority at the design stage.

Building Regulations

Conservatories are normally exempt from building regulations when:

- They are built at ground level and are less than 30m^2 in floor area.

- The conservatory is separated from the house by external quality walls, doors or windows.
- They have an independent heating system with separate temperature and on/off controls.
- Glazing and any fixed electrical installations comply with the applicable building regulations requirements (see below).
- Any new structural opening between the conservatory and the existing house will require building regulations approval, even if the conservatory itself is an exempt structure.
- You are advised not to construct conservatories where they will restrict ladder access to windows serving rooms in roof or loft conversions, particularly if any of the windows are intended to help escape or rescue if there is a fire.

But even with all the above boxes ticked, there are some other areas where the Building Regulations could potentially still apply:

- If the structure is built over a shared drain run (check before excavating!). N.B. you are not allowed to build over a Public Sewer – to find out if there are any Public Sewers on your property check with your local Water Authority.
- Any new electrical circuits must comply with Part P of the Building Regulations, so an application will need to be made unless the work is carried out by a 'competent person'.
- Any structural alterations, such as a new opening from the house to the conservatory will require Building Regulations approval, even if the conservatory itself is an exempt building.

Conservatory Design

When it comes to designing your conservatory, there are some general points to bear in mind:

- Better quality designs have base walls of cavity masonry construction laid to normal foundation depths, upon which the superstructure is fixed – as opposed to simply being erected upon a thin concrete slab (which can lead to problems with structural movement).
- Flues serving wall-mounted boilers are often located so they clash with the proposed conservatory. This normally means having to relocate the boiler so the flue is well clear of the building.
- Ventilated roof ridges should be incorporated to relieve air pressure and prevent 'wind uplift' that can push out lightweight roof panels.
- Try to avoid building the conservatory where it could hamper rescue by ladder in the event of fire to windows serving upper floors.

Replacement of Conservatory Roofs

Many conservatories are now reaching the end of their natural life or are starting to cost substantially more to heat. Homeowners are now looking for cost effective ways of retaining their existing floor space whilst improving the energy efficiency of the conservatory. To this end they are giving consideration to replacing their existing obsolete translucent roofs with solid ones.

Conservatories have been exempt from compliance with Building Regulations for many years – as long as it is a lightweight structure comprising of predominantly glazed walls/roof and that the conservatory is thermally separated from the main dwelling.

When building work is carried out to significantly reduce the proportion of glazing or level of translucence to the roof – the conservatory can no longer be classed as exempt from Building Regulations compliance.

So, if you intend to replace your existing conservatory roof with either a

- Traditional timber roof construction with tile/slate covering immediately on top of the existing glazed conservatory frame

or a

- Lightweight composite roof immediately on top of the existing glazed conservatory frame

- a Building Regulation application must be submitted.

The main issues of awareness in your conservatory construction are:

Foundations – trial holes will need to be excavated in order to assess the existing conservatory foundations. This will be required to ensure that the foundation is suitable to support the new roof loading.

Roof construction – structural assessment of the existing conservatory framework will need to be carried out to ensure that it is suitable to support the new roof loading – It will be necessary to verify the type and extent of reinforcement within the existing vertical frames.

If there is no suitable reinforcement in the existing frames to support the new roof loading – then it may be necessary to install new window frames or additional reinforcement installed abutting the existing frames.

Energy Efficiency – the new roof construction should be provided with satisfactory thickness of insulation so as to comply with current Building Regulations.

The separating wall/doors between the conservatory and the main dwelling must always remain in position.

Please contact your Building Control team to discuss the upgrading of your conservatory roof prior to commencing building work.

You will be advised regarding the following:

- How to submit your Building Notice application – and appropriate fee.
- Arranging an initial site inspection from Building Control in order to discuss the project with you and your contractor.
- Providing trial holes so that your Building Control Surveyor can assess the suitability of your existing foundations
- Discussing and agreeing support to your proposed roof construction with your Building Control Surveyor.

Garden rooms

Where your conservatory doesn't meet the necessary Building Regulations criteria, it will be classed as a home extension which will need to fully comply. This is covered in the booklet 'Extending Your Home', but the following points are worth noting:

- Adding a conservatory to create a large open plan kitchen/diner can create a pleasant, bright feel. But without any dividing doors to separate it from the main house, much of your room heat will be channelled straight out to the conservatory, sending energy bills rocketing. Simple polycarbonate roofs can allow more than 15 times the amount of heat to escape than conventional tiled roofs. In summer the opposite problem can occur, as the sun heats the enclosed space to unbearable temperatures. So where there is no thermal separation from the house, new rooms must be designed so they don't leak heat and the design will need to meet demanding thermal efficiency requirements (Part L).
- There are limits on the extent of glazed areas (normally equivalent to no more than 25% of the extension's floor area + an additional area to compensate for any existing doors or windows which are covered up due to the works).
- Some kind of heating system will be required, such as an extra radiator or new underfloor heating. It should be capable of being controlled separately from the rest of the house so it can be set to a lower temperature or turned completely off.

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ALTERATIONS

Layout alterations – partition walls

Changing the internal layout of a property can be one of the best ways of transforming its appeal without spending a fortune. Taking out internal walls to open up the living space can be very tempting, especially in smaller dwellings, for example 'knocking through' front and rear reception rooms. But in some cases this can be structurally unwise.

In period properties there's a danger of creating a sterile environment devoid of the historic features and original layouts that many buyers demand, thereby reducing its market value. Also, internal partitions can perform a useful function keeping conflicting activities in the home separated, or discreetly concealing old dishes and clutter.

But as long as they're carefully planned, layout alterations can be highly successful at overcoming drawbacks with the original design. For example, houses with a warren of small, dark rooms can benefit enormously from the improved light gained by opening-up.

Or in properties with small kitchens, taking out the wall separating the kitchen and adjoining dining room can dramatically improve the layout at minimal cost compared to building a new extension.

Removing internal walls

Some internal walls are fundamental to the structure of the house. Some offer fire protection to the stairway and others simply divide up the space within the house and are relatively straightforward to alter or remove.

Load-bearing walls obviously require very careful consideration before they can be altered or removed – work which requires Building Regulations consent. In most cases you will need to consult a structural engineer to design a suitable beam or some other supporting structure so the loads are safely transmitted to the ground.

Before demolishing an internal wall there are two key questions to ask:

Is it load-bearing?

It's not always obvious which walls are holding things up and which are merely partition walls. But if you get this wrong, you're in serious trouble. In most properties, especially older buildings, the internal walls will normally be supporting roof loadings, floor joists or walls upstairs (see below). In some new properties that are constructed using 'timber frame' techniques inadvertent removal of walls can also cause structural problems.

Does it protect you from fire?

Walls around staircases offer protection allowing you to escape in the event of a house fire. Altering these will require Building Regulations consent, even if they're not load-bearing.

Similarly, partition walls that separate entrance halls from reception rooms are best left intact, since they form a ready-made fire escape corridor to comply with Building Regulations should you want to convert the loft. These walls are particularly important in houses with three or more storeys. If they are removed it's essential that mains-operated smoke detectors are fitted and that windows to upstairs rooms are suitable for fire escape purposes. If you wish to remove such a wall, contact us and we will be happy to advise whether they are essential to fire protection and whether any additional work is needed.

How can you tell if an internal wall is 'structural'?

It's a bit of a myth that if you tap a wall and it sounds hollow it's just a studwork dividing wall. In fact, some stud walls are load-bearing. Conversely, solid masonry internal walls aren't always 'structural' – some were built as simple partition walls. To see if an internal wall is load bearing, check if it's supporting:

Roof loadings

In older houses the roof structure often relies on support from an internal wall. More modern roofs with 'W' shaped roof trusses (introduced in the late 1960s) are designed to span right across the house from one main wall to another without internal support.

Floor loadings

Floor joists rarely span more than about four metres without support from an internal wall or beam. Look for nail runs in floorboards to see the direction of joists (at right angles to direction of floor boards).

Loadings from walls above

Ground floor walls often extend upstairs as bedroom walls. However, sometimes upstairs walls are offset or supported on a beam. Most modern houses have lightweight stud walls to the upper floors.

Lateral support

In older houses, internal walls often provide 'lateral support' helping to tie together the adjoining walls either side.

If in doubt the best advice is to consult a structural engineer or building surveyor, but in most cases a Building Regulations application will need to be made.

Structural Alterations

Before making any sort of structural alteration to your home a Building Regulations application must be made. Building Control will then inspect the work on site as it progresses and ultimately issue a completion certificate.

As well as 'knocking through' internal walls there are several other types of popular structural alteration, such as the removal of chimney breasts to free up living space and enlarging openings in main walls to provide bi-fold garden doors.

If such works are carried out illegally without consent, it can cause major problems when you come to sell or re-mortgage – as well as being potentially dangerous. So it's reassuring that Building Control will be conducting site visits to check the work and offer professional advice.

Design

To safely make a structural alteration you obviously need to provide an alternative

means of support to the loadings above. A structural engineer will need to calculate loadings and design a suitable solution. For example, where chimney breasts are removed, the remaining masonry above (to the chimney stack via the loft/ upstairs room) will still be taking loadings from the chimney stack and will need to be supported. This normally requires the insertion of a suitable steel beam fully supported at either end on padstones.

Similarly, where load-bearing internal walls are taken out, a steel beam will normally need to be inserted to transfer the load to the side or party walls. Where party walls are not strong enough to support such extra loadings, new brick piers or steel columns will need to be installed to support the new beam, which could mean having to excavate small foundations internally, adding to the expense and disruption.

Making an opening

When making structural alterations, temporary support must be provided before any demolition is carried out. For example, when taking out a wall, the masonry above must be supported while a slot is cut for the new lintel. This is done by first cutting holes just above the position of the new lintel through which sturdy timber 'needles' are placed. These are supported on either side by adjustable steel 'acrow' props which should rest on a scaffold plank to spread the load.

New lintels should normally extend either side of the proposed opening by at least 150mm bearing. To spread the load, additional support will be needed under the ends of the lintel, such as a padstone or hard engineering bricks. Once safely supported, the new opening can be cut out underneath.

CHANGING YOUR DOORS

Changing the main doors can do a lot to enhance the appearance of a property and boost its 'kerb appeal'. It can also make your home warmer and less draughty because ill-fitting external doors are a prime source of heat loss with breezy gaps allowing in gusts of cold air.

When renovating a property, there are three options when it comes to upgrading the doors: either overhaul the existing door and frame; replace just the door itself; or fit a combined new door and frame. Much will depend on the size of your budget as well as the condition of the existing door and the age of property. For example, fitting a new UPVC front door on the front of a period house is one of the quickest ways to wreck its character and can also have planning implications. So for historic homes, upgrading the originals or replacement with an exact replica is normally the best bet.

But it's not just main entrance doors that can benefit from replacement. If you want to introduce some architectural flair upstairs, it may be possible to replace conventional bedroom windows with glazed, inward-opening double doors, enclosed externally by a discreet cast iron 'Juliet balcony'. Similarly, renovating or replacing the interior doors can transform the appeal of a property.

Consents

Planning permission is required in Conservation Areas for replacing front doors and any significant alterations to the principal elevation. For Listed buildings consent is also required for changing internal doors.

The Building Regulations apply where you want to make structural alterations, such as enlarging an existing opening to install a wider pair of double doors.

Where both the door and frame are being replaced simultaneously they are defined in Part L of the Building Regulations as 'controlled fittings' and have to meet minimum thermal insulation standards and achieve air tightness to frames and thresholds. With internal doors, Part B of the Building Regulations covering fire

protection can sometimes apply as well as Part M for improved indoor mobility.

External doors

It pays to take a little time when picking a new door. Fitting a cheap one may leave you vulnerable to leaks as well as break-ins. Clearly it's important to match the dimensions as closely as possible to the existing frame or opening. Older properties sometimes have awkward sized openings which may need more extensive preparatory work. So sometimes renovation and upgrading of an original door is the best option and many good quality Georgian and Victorian doors are still going strong.

Doors manufactured from UPVC are usually supplied as a complete unit with an integral frame. Their main advantage is that they are virtually maintenance-free, although they are not always as attractive looking as the traditional wooden variety. However, unlike UPVC, timber doors may not comply with the latest thermal performance standards.

Fitting frames

Entrance doors normally open inwards, whereas 'French windows' or balcony doors generally swing outwards. But there's nothing to stop you improving the layout of a kitchen for example by fitting the door so it opens outwards to the garden to save space internally.

When installing new frames, it's good practice to fit a protective strip of plastic DPC around them (as with new windows). Although timber frames are normally pre-treated, all surfaces that will abut the walls should first be painted with primer, undercoat and top coat.

With UPVC frames it's particularly important to allow for expansion of the plastic by leaving a suitable gap between the frame and the surrounding masonry, to prevent distortion. Once fitted, the joints between the frame edges and the walls should be sealed with mastic.

Rainwater is prevented from entering under entrance doors by means of threshold seals fixed into a groove on the underside of the door or to the threshold beneath the door. An overhanging 'weatherboard' projecting from the lower front of the door should also be fitted to disperse rainwater.

Hanging doors

The advantage of fitting a new frame and door 'combo' is that the frame will be designed to accept your precise choice of new door – so it should all slip easily into place. However, to ensure the frame fits the opening, some preparatory work to the masonry may first be required.

New timber doors should be unwrapped and allowed a little time prior to installation to acclimatise so as to minimise the risk of bowing, warping and sticking. To achieve a good fit a certain amount of planing may be required, particularly where old frames are slightly distorted. Timber doors should be painted or varnished soon after installation so they don't get a chance to absorb moisture and swell.

When fitting new doors, a clearance gap of about 3mm should be left at the top and sides, but you need to allow for the fact that the door will tend to drop over time.

Hinges should always be fitted to the door first, before the frame. Brass hinges are normally the best option as they are not susceptible to rust. When any necessary trimming has been done and the hinge positions chiselled out and with the hinges fitted, the door can be temporarily wedged in the open position so it can be screwed to the frame. With heavier doors, such as those containing glazing, a third hinge

should be placed mid-way between the main pair. Finally the door furniture and locks can be fitted.

Security

When specifying new doors, those certified to PAS 23/PAS 24 should provide optimum security.

Locks should be specified to comply with BS3621. For external doors, the best security locks are 5 lever deadlocks, plus a cylinder rim lock for front doors. The easiest type to use are mortises with lever handles that automatically operate a latchbolt and deadbolt.

Internal doors

In older properties it's normally best to renovate the original interior doors, as they are an important part of the building's history and architecture – plus this should work out a lot cheaper than fitting new ones. But replacing poor quality modern doors is usually well worth doing as it's an easy way to revitalise your rooms. To boost the amount of light in a room, part glazed doors can be useful, but glazed lower door panels need to be fitted with safety glass.

The age and architecture of the property is likely to influence the style of replacement doors and door furniture. In contrast to many plain modern doors, Victorian houses generally feature classic four panel designs, the Georgians had a fondness for the six panel variety and the 1930s saw the advent of distinctive 'one over three' panelled doors – not forgetting the grandfather of them all, the traditional farmhouse 'ledge and brace' door. If you want to recreate an authentic period house feel, reclamation yards can be a useful source of traditional doors. But bear in mind that warped doors can rarely be much improved and over-large ones can only be trimmed by a small amount before it affects their strength.

Interior doors are lighter than their more durable external cousins, typically only 35mm thick and are normally made of softwood. Many lightweight doors are hollow inside, comprising a simple timber frame containing a honeycomb cardboard core, clad both sides with moulded panelled sheets. Heaviest of all are self-closing fire-check doors which provide a minimum 20 minutes' resistance ('FD20') to the spread of fire, some incorporating an intumescent strip for added protection. You are unlikely to need these in a typical home unless the dwelling is three or more storeys high, or for doorways to integral garages ('FD30').

Fitting catches tends to be easier with solid timber doors. With hollow doors you need to locate the solid wood block within the frame into which they are housed.
Most internal doors can be supported by a pair of butt hinges, although heavier fire doors require a third hinge and in some cases door stops may need to be made thicker.

When it comes to fitting replacement doors, they normally need to match the dimensions of the existing frames, which don't always conveniently correspond to standard 21st century door sizes. So a certain amount of adjustment is likely to be necessary.
New internal door frames can be purchased in kit form comprising timber liners which are screwed to the masonry or studwork wall.

RE-FITTING KITCHENS

The kitchen is often the focal-point of the home and one of the busiest rooms in the house. In new homes the traditional layout, comprising a kitchen with a separate dining room, has largely been superseded by spacious open-plan family kitchen/diners. So re-fitting and perhaps enlarging an existing kitchen can significantly add to the value of the property as well as transforming its appeal.

If you're working to a tight budget, it shouldn't be too hard to create an impression of opulence using relatively inexpensive units, perhaps set off with a good quality granite or hardwood worktop and some stylish fitted appliances.

Consents

Other than in Listed buildings, re-fitting a kitchen shouldn't raise any planning issues.

However, there are a number of areas where Building Regulations sometimes apply:

- New drainage.
- Structural alterations, e.g. taking out walls and chimney breasts.
- Gas fitting and boiler/cooking appliance installation.
- Electrical work involving provision of a new circuit or consumer unit.

The last two items are usually self-certified by approved installers, but for drainage and structural alterations Building Control will need to carry out inspections to check that new installations are satisfactory. If possible ventilation should also be upgraded with ducted extractor fans (e.g. to cooker hoods) and trickle vents to windows and doors.

Kitchen planning

There's more to designing the layout of a kitchen than first meets the eye. Kitchens depend on quite elaborate plumbing and electrical connections all being in the right place. So it's essential to carefully plan your requirements well in advance, as changing the position of fittings at a later date can cause a lot of extra expense and hassle re-routing electrics, gas pipes and plumbing.

There's a lot of detail to get right when installing new kitchens, not least fitting new units into odd-shaped old rooms with bowed walls, minimal sockets and antique pipework.

It's important to carefully consider the hot and cold water supply routes; the wastes for sinks, washing machines; and dishwashers, and vents for dryers. Check the position of all the new electric power point sockets and light switches in relation to the new units and appliances. Also bear in mind the positions for fused isolator switches, oven master controls, cooker hood fans and vent ducting as well as any under-unit lighting – not forgetting to check available power supplies for waste disposal units or water softeners etc.

Kitchen suppliers can normally provide a detailed 3D image of the room to help visualise the new units in place before ordering. But rather than rely on a salesperson's advice, it's not too difficult to conceive your own 'virtual kitchen' using a

simple pad of graph paper. Carefully sketch the layout, looking down from above. Draw a plan of the kitchen to scale, starting with the main walls and then add all the window and door openings, marking the positions of radiators and sockets. Then draw an elevation view looking at each wall in turn as if standing in the room. Cutting out scale shapes of units and appliances and sticking them on your grid-plan can prove extremely useful in preventing expensive errors later.

Completion

When all the plumbing is complete and all the sinks are fully connected up, there are some key checks that should be carried out before making the final payment to your kitchen installer:

- All new units should be well fixed to the walls and floors and the doors and drawers should operate freely.
- Worktops should be of the correct thickness and neatly joined with a good seal or upstand where they meet the walls.
- Non-return valves should be in place to the various water supply pipes.
- Waste water should discharge satisfactorily.
- All new plumbing should be tested as fully watertight.
- New pipework should be connected up to appliances such as dishwashers and washing machines.
- All new electrical work must be fully complete and operational, with sockets and switches tightly secured and a test certificate provided.
- Any new boiler must be commissioned and tested.
- Any necessary Building Control Completion Certificate must be provided.

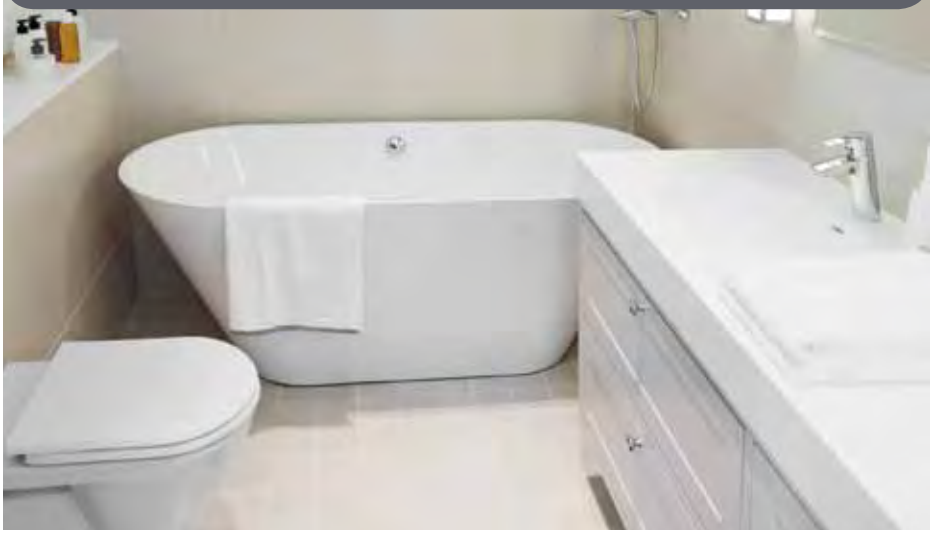
Kitchen Design Tips

Internal room measurements must be accurate and in metric (usually mm). If possible your kitchen supplier should take their own measurements so they can't blame you later if things don't fit.

- Check design restrictions – note the position of boilers, doors, windows, supply pipes and waste pipes.
- Mark the position of hot and cold supply pipes and waste pipes.
- Electric sockets and switches must be well clear of hobs and sinks.
- Note the internal heights of window ledges and the available ceiling space.
- Cookers need a minimum 300mm clear worktop space either side and should not be located next to a sink or beneath a window.
- Wall units must not be fixed directly above a hob/oven or above a sink.
- Fridges or freezers shouldn't be located next to a cooker.
- Door swing openings should be marked for all base and wall units on your plan.

RE-FITTING OR ADDING BATHROOMS

Replacing a tired old bathroom suite can transform your home for relatively little financial outlay. Bathrooms are less expensive than kitchens to re-fit – standard new suites can be surprisingly cheap to buy – although associated works such as wall tiling and new flooring can bump up the cost. Replacing baths, washbasins, showers and WCs can be a fairly straightforward job as the new units should require little in the way of new plumbing work.



Consents

As with re-fitting kitchens, there's normally no need for planning permission unless the building is Listed.

Building Regulations are only likely to apply where you decide to add a new bathroom, for example in a former bedroom or storage area. This may include some or all of the following:

- New drainage.
- New ventilation.
- Structural alterations, e.g. taking out walls and chimney breasts.
- Gas fitting and new boiler/hot water cylinder installation.
- Electrical work.

The last two items can usually be self-certified by approved installers, but Building Control will need to carry out inspections for new work such as drainage

and structural alterations. Ventilation should also be provided with ducted extractor fans and trickle vents to windows.

Re-fitting a bathroom

When it comes to replacing an existing bathroom suite, the job is made considerably easier if you select new fittings that match the old ones in size as closely as possible, especially baths and shower trays. With a bit of luck they should simply 'slot in' with minimum upheaval – although connecting up a new suite to decrepit old imperial-sized pipes can require a certain amount of ingenuity!

Beyond the choice of sanitary fittings and taps, there are other design issues to ponder, such as whether to re-tile the walls, fit new towel rails and install storage cupboards.

While you're at it, it's worth upgrading the bathroom to comply with current Building Regulations in terms of ventilation – fitting a ducted extractor fan will help reduce condensation and mould. Also lining the main walls with insulation, upgrading the lighting and fitting secondary or double glazing can be worthwhile energy efficiency improvements.

Also, pay careful attention to the detailing at the edges of baths and shower trays as the joints where fittings abut the walls are a common cause of leaks. Use purpose-made sealing trim strips or a suitable silicone mastic sealant.

Adding a new bathroom

Where you want to install a totally new bathroom, the existing hot and cold water supplies will need extending. The waste pipes will also need to be carefully planned so they connect into the existing system, plus you may need some new central heating pipework for any additional radiators or towel rails. Don't forget to allow for the boxing-in of surface-run pipework so that it's neatly concealed. The only restriction on DIY plumbing is competency, so this is an area you may want to tackle yourself. The electrics may also need extending, although sockets are not permitted in bathrooms.

If space permits, it's normally a good idea to have a separate shower cubicle within a bathroom, rather than just a mixer over the bath. Or you may like the idea of a walk-in wet room, with fully tiled waterproof floors and walls.

DIY plumbing tips

- Allow plenty of time – do not hurry the job.
- Check all supplies are fully turned off, or drained down, before starting.
- Isolate the new work from the main house, so it's business as usual for the family.
- When finished, double check that the system is fully watertight under pressure.

Pipework

Most pipework is run in copper, although plastic pipes are increasingly used for new work.

When it comes to running pipes in timber floors the critical points structurally in joists are the centre and the ends. In traditional joists, notches should be cut from the top (no deeper than 1/8th depth) and it's a good idea to fit small steel shields over the top of cut notches to protect pipes from subsequent puncturing should anyone carelessly hammer nails into floorboards.

But modern 'I-joists' must not be cut – they have pre-formed slots to accommodate pipes and cables.

The Building Regulations require new water supply pipes to be fitted with non-return valves to prevent 'back siphonage' and these can also provide a handy on/off control to allow maintenance works. To prevent any risk of scalding, temperature controlled thermostats should be fitted to hot water supplies to showers and baths.

Waste pipes

Waste pipes need to be laid to suitable falls with sufficient support-clips so they don't sag.

Internal white plastic waste pipes and fittings are push-fit and should be surface run rather than buried in floors.

When designing a new bathroom you need to take account of the fact that there is a maximum distance that you can locate your new basin, WC and bath etc from the soil and vent pipe waste stack (SVP) before there is a risk of 'siphonage' occurring. This constraint can influence the layout of new bathrooms. However it may be possible to fit special 'anti-siphonage' traps or bigger bore pipes.

Installing a new bathroom or WC 'durgo valves' (air admittance valves) usually need to be installed. Unlike conventional SVPs these vent automatically and relieve excess pressure without emitting odours. They don't need to terminate way up at roof level and instead can be neatly boxed in and are sometimes placed unobtrusively in loft spaces.

Foul and surface water

There are two types of waste water: rainwater from gutters etc.; and foul waste from bathrooms, cloakrooms, kitchens and utility rooms. These must not be mixed up, as it can lead to problems with flooding and pollution, even causing disease. Waste plumbing for new bathrooms must be connected to the underground foul drains, not into a handy nearby rainwater downpipe for example. This is something that Building Control will want to check before issuing a completion certificate.

WCs

One of the first questions you need to ask when designing a new bathroom is 'where are the drain runs?' This tells you where it would be realistic to fit new bathrooms without running into plumbing problems. Where a new WC is installed some distance from the foul drains, one possible solution is to install a macerator. These work by mashing up the waste so it can be pumped out through conventional narrow-bore 38mm pipes rather than requiring the normal larger 100mm WC pipes. But because they rely on electrical power, the home must have at least one conventional WC, in case of power cuts.

Baths

Most modern baths are either lightweight steel or acrylic, but they still need to support a substantial weight of water and occupant(s) when in use. So it's important that the feet are firmly supported. Some traditional cast iron baths are extremely heavy with miniscule feet which transfer incredibly high loadings to the floor surface. So it may be necessary to first strengthen the floor.

Showers

To operate effectively, showers often require the water pressure to be beefed up with a powerful pump together with a separate new cold supply. Shower trays can also be prone to developing leaks, the worst offenders being thin acrylic ones which can be prone to distortion. Ceramic or stonecast trays are generally preferable. Or you could opt for a simple mixer over the bath with a shower screen (although these can be difficult to make fully watertight).

REPLACING OR ADDING WINDOWS

Windows can be a major source of heat loss, so carrying out improvements here can make your home feel more comfortable whilst reducing energy bills.

There are three main options when it comes to upgrading windows: refurbishing the existing units; fitting new glazing into the retained existing frames; or complete replacement. The best option will depend on your budget and the age and condition of the property. You may also want to add a new window opening to boost the amount of light to a room or benefit from a view.

Consents

Planning permission isn't normally required for straightforward window replacement, except in Conservation Areas and to Listed buildings. However adding a new opening for a window can be more contentious, particularly to the side or anywhere a new window would overlook neighbouring properties. Also, adding new windows may be prohibited in the planning conditions dating from the time your house was built. Where all else fails, fitting discreet roof windows or light tubes etc. may be feasible.

The Building Regulations define new windows and doors as 'controlled fittings' (Part L1B). However, in most cases installation work will be carried out by FENSA registered installers (Fenestration Self-Assessment) who can 'self certify' the installation. So an application to Building Control only needs to be made when windows are replaced by an installer not registered as a 'competent person' or where the opening is new or enlarged.

To comply with Building Regulations maximum permitted heat loss standards apply and new windows must meet a minimum performance standard based on either a 'C' Window Energy Rating (WER) or a minimum whole window U-value of 1.6 W/m^{2}K.

Replacement windows also need to comply with requirements for ventilation, e.g. with trickle vents in window frames.

For new window openings to habitable rooms there are minimum size requirements equivalent to at least 1/20th of the room's floor area. Building Regulations consent will also be needed for any structural alterations, such as widening an existing opening and fitting a new lintel.

Apart from looking good and keeping your home warm, bright and well ventilated, there are other factors that need to be considered when installing replacement windows:

- Escape from fire – on upper floors.
- Security, especially to ground floors and windows facing flat roofs.
- Danger from broken glass.

To cut the risk of accidents, safety-glass is required in critical locations. This includes any glazing within 800mm of floor level and if there are any windows adjoining doors (within 300mm) then any glazing lower than 1500mm from the floor must also employ safety glass. Safety glass comes in the form of laminated or toughened glass

which shatters into relatively safe small pieces (BS 6206 class A). Safety can be further improved by fitting special high-level child-proof handles.

Picking windows

The choice of new windows on the market is extensive. You can buy anything from quaint replica box sashes to conventional side or top hung casements or even exotic 'tilt-and-turn' units. These are available in a variety of materials such as softwood, hardwood, UPVC, painted aluminium or galvanised steel, as well as in a range of colours and glazing styles. It's worth noting that although UPVC windows are sold as 'maintenance free' and don't need periodic decoration, they typically have a useful life of only around 30 years. But double glazing offers other important benefits, such as improved security, sound proofing and reduced condensation.

As a general rule it is worth trying to emulate the original window architecture of the house. Fitting cheap plastic windows into a period cottage is likely to slash its market value as well as, quite possibly, contravene planning laws. The quality of original windows in older properties is generally far superior to modern equivalents. They can also be an important part of the building's character, so it's usually a better option to restore them. In contrast, softwood windows dating from the 1960s to 1980s can be especially prone to rot and likely to require complete replacement.

Glazing

Glazing technology has made great advances in recent years and even super slim units can achieve excellent performance. There are three key features that help thermal performance:

- Gas filling reduces heat transfer across the glazing cavity.
- Low-E (emissivity) coatings reduce heat loss across the glazing cavity.

- Super-insulated frames incorporate 'warm edge' spacers to reduce heat loss via thermal bridging.

Where historic windows in older properties need to be retained, a good alternative is to install internal secondary glazing. These can comprise double glazed units that open inwards to the room. Secondary glazing also has superior sound deadening qualities to double glazing.

Alternatively, special super-slim double glazed units can sometimes be fitted to existing window frames in period houses, retaining much of their period charm.

Cold bridges

The vertical sides of the walls around window and door frames (the reveals) sometimes suffer from damp and mould. This is due to 'cold bridging' where the brick or blockwork is 'returned' around the

corner forming a bridge between outdoors and indoors. To avoid this when re-fitting windows, special insulated plastic 'cavity closers' filled with polystyrene foam can be inserted to 'close the cavity'. This also has the advantage of forming a vertical DPC and some types can provide a fixing point for window frames.

Structural issues

It's important that replacement window contractors carry out key checks in advance. For example, many properties built from the 1940s to 1970s have no lintels over window and door openings because the original frames were designed to support the walls above, with no need for lintels to the outer leaf. But replacement windows aren't designed to support such loadings. So if there is no lintel, suitable temporary support must be provided and a new lintel inserted.

A similar but more serious problem can occur with bay windows particularly to 1930s houses. The original windows often had integral columns supporting heavy loadings from roofs etc. So it's important that replacement windows are designed to provide sufficient structural support.

Demolition

As well as checking in advance whether there's a suitable lintel supporting the masonry walls above the window, there are a number of key points to bear in mind before cutting out the old windows:

- Before removing the old windows ensure you have the new replacement windows ready on site and sufficient temporary propping in place (where necessary).
- When removing old glazing protect yourself by wearing goggles and gloves. A useful tip is to cover both sides of the old glass with clingfilm to reduce the risk of small shards flying off.
- The frame can then be cut into manageable lengths and prised away from the brick reveals and the opening made ready for installation of the new replacement unit.

Frame fixing

Various methods have been used to anchor frames into the surrounding masonry such as special frame fixing screws, galvanised steel brackets or dual cavity closer/ subframes. But whatever method is used, the screws must not be overtightened and cause distortion to the frames.

With UPVC frames it is especially important to leave a suitable gap to allow for expansion.

A strip of DPC should be provided around the opening, including sills, prior to installing the frame. This is essential for timber frames, which also need to be primed, knotted and undercoated before fixing. The gaps between the frames and the surrounding wall are then sealed with a suitable silicone mastic. If the outer wall surface below the window is tiled or timber clad, a lead 'apron' should be fixed under the sill and dressed down over the tiling or cladding.

One design factor that affects the look of the house but is frequently overlooked, is the question of how far back the new windows should be recessed within the opening. Traditionally, windows were set back about 100mm which helped protect them from the weather, whereas modern windows are typically rebated only about 25mm. The best approach is normally to match the original pattern of the existing windows, which means that for many older properties they need to be set fairly well back. This decision will also affect the outer sills, which must project well clear of the wall below so rainwater can disperse without causing damp.

RE-WIRING AND ELECTRICAL ALTERATIONS

Nearly 40% of the UK housing stock dates from the 1960s or earlier and many properties of this age will now be in need of upgrading or re-wiring.

Building Regulations

All new electrical work must comply with Part P of the Building Regulations which restricts DIY electrical work on grounds of safety. However, you are still allowed to carry out some work yourself without notifying Building Control. Minor repairs and maintenance are permitted, as well as 'like for like' replacements, such as changing existing sockets, switches and ceiling pendants or even replacing damaged cables. As long as the job isn't within a 'special location' such as a bathroom or outdoors, you're also allowed to install additional new light fittings, switches, sockets and even add a single fused spur to an existing circuit (a 'spur' is a new cable and socket run as a branch from an existing socket on the ring main).

Everything else, such as installing complete new circuits or changing a fuseboard for a consumer unit, is classed as 'notifiable work'. This requires a Building Regulations application to be made in advance so the work can be inspected and checked. However, in most cases the electrician can self-certify their work as they're normally registered with a body that gives them the necessary 'registered installer' status (also known as 'competent persons') such as the ECA (Electrical Contractors Association) or NICEIC (National Inspection Council for Electrical Installation Contracting).

A 'non-qualified' person can still carry out notifiable electrical work as long as Building Control are informed – but if you fail to do this and the work is found to be unsafe, it can lead to a hefty fine.

Upon completion of the job, it is a legal requirement for the electrician to test the new system and hand over a signed BS 7671 electrical safety certificate. In addition, you should be sent a Building Regulations compliance certificate for all notifiable work by the operator of the registration scheme.

Re-wiring

Properties dating from the 1970s or earlier that still have their original wiring, will now be overdue for complete renewal. The first job normally involves routing all the cables and fixing the backing-boxes in place. This is known as 'first fix'. The 'second fix' stage involves fitting all the covers to the switches and sockets and installing light fittings and ceiling roses etc.

Rewiring an occupied property is more difficult than in new construction, especially in flats, where cables are often buried within inaccessible floors or ceilings. So re-wiring can cause considerable disruption and expense.

Traditionally, cables running along masonry walls would be buried in channels known as 'chases' gouged out of the walls. In new construction cables can be run behind flat steel shields which are pinned to the bare walls and then plastered over, or can be hidden within timber studwork walls.

Cables also normally need to be run through floors, which can mean drilling holes in timber joists to feed them through, but there are strict rules about how to do this without weakening the floor structure.

When refurbishing a property, constructing a new false ceiling below the existing one can conceal lots of new cabling as well as improving fire and sound insulation. Similarly, dry-lining the main walls with plasterboard can create useful ducts for cables and wall lights whilst simultaneously boosting thermal insulation.

Alterations and improvements

If you want to upgrade your electrical system with some new switches, sockets or light fittings, it's always a good idea to provide the electrician with a drawing showing the required positions. Common electrical improvements include:

Adding extra sockets

One of the most common complaints amongst house buyers is that there are insufficient numbers of power points for all the various gadgets that modern life demands. So extending a circuit to add an extra socket or two is a popular improvement when renovating. New cabling can be surface run in plastic conduit to avoid damaging decorations and cutting chases into walls, but this needs to be done neatly.

Depending on room size, a modern household requires about three or four DSSOs (double switched socket outlets) for each bedroom, five or six each for kitchens and living rooms and a couple for halls and landings. The Building Regulations now require that power sockets must be positioned no lower than 450mm above

the floor and light switches no higher than 1200mm from the floor.

Fitting a new consumer unit

Installing a modern consumer unit (fuse box) is one of the simplest precautions to reduce the risk of electric shocks and fire. So if your old fuse box has ancient re-wireable fuses it should be replaced. Modern consumer units have MCBs (miniature circuit breakers) for each individual circuit. These automatically switch off or 'trip' when they sense a fault or overload, usually within 100 milliseconds, potentially saving lives.

Modern 'split load' consumer units also provide additional RCD (residual current device) protection for the more vulnerable circuits (e.g. to outbuildings).

Safety testing

It is recommended that systems are tested every 10 years or upon change of ownership.

To check the condition of your electrical system it's advisable to arrange for a thorough electrical inspection and test by a qualified electrician, who will provide a test certificate. This is essentially an MOT for your home and can be a lifesaver. It typically involves unscrewing and checking around 40% of all sockets and switches and lighting points in the house and takes several hours. This is followed by a series of tests carried out on the wiring as well as testing the insulation resistance to cables and checking the circuits, consumer unit and RCDs etc.

Earth bonding

Many homes have electrical systems of 25-35 years of age which can still perform adequately with a spot of upgrading to bring them up to modern safety standards. This typically involves fitting 'earth bonding'.

Electricity will always head for earth the quickest way possible, including via any human body that happens to be in the vicinity. So in order to prevent possibly fatal electric shocks it makes sense to provide an alternative route. 'Earth bonding' protects occupants by connecting the metal components in the house with an earth wire (green and yellow sleeved). The requirement is to bond metal items such as incoming service pipes (water, gas, oil etc) as well as central heating pipes at the boiler, the hot and cold water pipes and metal baths etc. New copper piping for heating and water needs to be earth bonded to the electrical system (but not where pipework is run in plastic).

Bathrooms and kitchens

When it comes to electrical work, any 'wet rooms' are high risk areas. So special care is needed when planning room layouts in kitchens and bathrooms so that nothing electric should be touchable from where a person could be in contact with water at the same time.

In bathrooms a surprising number of electrical fittings may need to be accommodated, such as lighting, extractor fans, room heaters, shower units and pumps. However, only special low voltage safety fittings are allowed in bathrooms and no power sockets are permitted. All electrical circuits within bathrooms must be protected by Residual Current Devices (RCD) not exceeding 30mA and there are rules that limit fittings to defined safety zones within the room. Light switches should be of the pull-cord type or else located on the wall outside the bathroom.

Outdoors

Another high risk area is outdoors. Many DIY power supplies run to garages and pond pumps etc. are potentially dangerous. This is why outdoor electrical work is now strictly controlled and circuits must be protected by RCD and cables must be run in special external grade protective conduit.

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REPLACING BOILERS AND ALTERATIONS TO HEATING SYSTEMS

Replacing your boiler can make a big difference to reducing the amount of energy consumed in the home. Worthwhile savings can additionally be made by fitting more efficient controls and upgrading hot water systems.

Replacing a boiler or carrying out alterations to heating systems requires Building Regulations consent. In practice however this is usually undertaken by specialist contractors who can self-certify their work and provide the completion certificate when the job is done.

By law, the installation of heat producing gas appliances (e.g. boilers or fires) must only be carried out by a Gas Safe registered engineer, who will be responsible for notifying Building Control. So you won't need to make a Building Regulations application unless your contractor isn't registered with a self-certification scheme. It's important to be aware that if the heating engineer fails to submit notification, the owner of the property (e.g. landlord) can be subject to enforcement action.

Boilers are available that run on a wide variety of fuels and in areas without a mains gas supply popular alternatives include oil, bottled LPG/Calor gas and solid fuel (coal, coke, wood etc). Electric storage heaters are also fairly common. These take down cheaper off-peak electricity at night, store it in special bricks and release the heat the

next day. They need separate electric circuits with switched fused outlets to the heaters. Although cheap to install they offer relatively little control and are one of the most expensive systems to run.

Replacement boilers

In recent years, the efficiency of boilers has made enormous progress. All new domestic boilers are now of a 'condensing' type designed to recycle waste heat from the hot flue gases. Most new boilers are 'A' rated which means they achieve efficiencies of around 90%. You can see how efficient your existing boiler is at www.ncm-pcdb.org.uk. Depending on how they are maintained, boilers may last no more than around 15-20 years. So renewal may now be overdue and fitting a more efficient new boiler can significantly boost your home's Energy Rating.

When it comes to selecting the right type for your home it may be worth considering installing a new combination boiler. These are very popular since they dispense with the need for separate water tanks in the loft and supply both room heating and instant hot water. Although bulkier and a little dearer than ordinary boilers they're cheaper and simpler to install. Their limitations have traditionally been in properties with two or more bathrooms as there would only be enough hot water to serve one outlet at a time.

Modern wall-mounted boilers have small circular 'balanced' flues that usually project through an external wall. These are much safer than old boilers as they are 'room sealed', drawing air for combustion from outside (via the outer ring of the flue) and expelling exhaust gases through the same flue (inner ring). No extra air vents are therefore needed to the room in which they are situated (something that's required for open fires etc.). Although normally mounted on a main wall, there is some freedom about where to 'hang' the boiler since flues can be extended in length if they are 'fan assisted'. Or vertical flues can be fitted that pass through a roof slope.

The rules governing location of balanced flue terminals are quite complex, but generally they should be at least 300mm away from windows, doors, eaves, gutters, airbricks etc (fan-assisted flues can be closer) and should not discharge into enclosed areas, like side passages – they must have a free flow of air passing over them.

The preferred location for boilers is within garages, kitchens or utility rooms. Locating them in bedrooms or bathrooms is normally discouraged. Boilers also need an emergency overflow pipe directed down to ground level along the outer wall surface so that should a fault develop it can safely discharge boiling water at high pressure.

Alterations to heating systems

Apart from replacing the boiler, there are some other improvements worth making to boost energy efficiency and reduce bills, or simply to make your home cosier:

Heating controls

The aim of any heating system is to provide heat where there is a demand for it and avoid wasting money and energy where there is not. A central heating system with modern programmable controls will be up to 30% cheaper to run than a standard system.

The simplest and cheapest way to set different temperatures for each room is to fit thermostatic radiator valves (TRVs) to radiators. These sense and deliver the correct amount of heat on a room by room basis and are standard for new systems. But TRVs should not be installed in the same room as any existing wall-mounted thermostat and if a TRV is fitted to every radiator it will be necessary to fit an automatic bypass valve at the boiler (unless it already has one internally). To save

energy and keep bills down TRVs can be turned off completely when rooms aren't in use and room thermostats can be set to about 19 degrees.

You need to be able to control heating and water separately and most makes of boiler now have built-in clocks and programmers as well as a thermostat control that shuts off when the water gets to a certain temperature. A simple programmer that can set the heating to come on in the morning and again in the evening is essential to save energy, especially where a household is unoccupied during the day. More sophisticated programmable room thermostats and zoning controls allow different temperatures to be set depending on the level of occupation over a 24 hour period.

Extending the central heating

Extending a central heating system, or fitting a new one, should be within the capabilities of competent DIYers. The introduction of plastic pipes has made cutting, bending and joining pipes a lot easier. But you will still need to employ a Gas Safe registered heating engineer to install a gas boiler.

For oil fired heating systems the equivalent body is OFTEC (Oil Firing Technical Association). Also, extending your existing system may require an additional electronic 'slave' pump to boost the flow.

Replacing existing radiators is a relatively straightforward job, particularly if the replacements are an exact match for the old ones. But before installing new radiators you need to calculate the optimum size of each radiator to heat individual rooms in terms of the required output, measured in 'BTUs' (British Thermal Units). If you're employing a plumber it's a good idea to supply them with a set of plans in advance showing exactly where you want your radiators positioned.

In timber floors pipework can be run within the floor space, taking care to minimise cutting of joists. Where floors are of concrete, pipework is best surface-run along walls and boxed in. Pipes must be well supported with plenty of clips otherwise they can be noisy and prone to damage.

Central heating systems need periodic maintenance including flushing-through to reduce limescale and ideally should be checked annually under a service contract. Pressurised 'combi'-type systems require more frequent 'bleeding' from time to time to release built-up air.

Boosting hot water

Traditionally, hot water is stored in an insulated copper cylinder, usually located in the airing cupboard. These generally incorporate an electric immersion heater to boost the hot water when needed. Cold water from the large storage tank in the loft refills the cylinder as hot water is drawn off at the taps. If you have this type of system in your home there are some worthwhile improvements that can be made. Lagging the cylinder with an extra insulation jacket will reduce heat loss (and bills) and fitting sophisticated 'seven day programmer' controls should ensure that hot water is only generated when needed. Or simply setting the hot water cylinder thermostat to about 55°C will improve energy consumption (this should be a sufficient temperature if your hot taps and shower are reasonably close to the cylinder).

However, in the last 15 years, conventional cylinders of this type have largely been superseded by mains-fed pressurised systems, such as combination boilers that heat hot water directly as it's needed, or larger unvented hot water cylinders. So it may be worth replacing an old cylinder with a more efficient modern alternative. Pressurised hot water cylinders (such as

'Megaflow') do away with the need for tanks in the loft and instead any expansion is taken by an expansion vessel. In a typical unvented system, incoming cold mains water is heated either directly in the cylinder (the 'pressure vessel') by means of an electric heater, or indirectly from your central heating boiler. When you open a tap, the hot water stored in the vessel is forced out by the incoming cold water, hence you get hot water at mains pressure. The downside with systems relying on mains pressure, is that the output pressure can only be as good as the quality of the supply entering the property.

Underfloor heating (UFH)

The most efficient means of delivering heat to a room is from the floor upwards. Hence underfloor heating has the advantage that it requires much lower temperatures than radiator systems to achieve the same degree of thermal comfort. This means your existing boiler could operate more efficiently, saving money and energy. UFH is claimed to offer between 15-30% greater efficiency over conventional central heating, plus there's the added benefit of freeing up wall space with no bulky radiators.

The main type of UFH uses warm water pumped through plastic pipes laid in floor screeds over special insulation boards. This makes it less suited to retro-fitting because of the enormous amount of upheaval excavating floors etc. (although it's often only fitted to kitchens and can be combined with an existing radiator/s).

Underfloor 'warming mats' can be a simpler alternative for upgrading existing floors. Such 'dry' systems take the form of very thin flexible fabric mats containing electric heating elements which can be laid directly under floor coverings. These are ideal for background heating and taking the chill off cold stone or tile floors. Although easier to retro-fit, they are more expensive to run and best suited to smaller areas such as cloakrooms and ensuites.

The downside of UFH systems is the relatively slow response time, which may not be ideal for people who only occupy the house for a few hours a day, although intelligent controls can be programmed to anticipate when warmth is required in individual rooms.

What to do if you smell gas

The first thing to do with a suspected gas leak is to turn off all gas appliances and the supply at the meter. Open the windows and doors to disperse the gas but do not switch on the lights. Then phone your gas supplier. Sometimes a leak may be traced simply to an unlit pilot light or faulty gas cooker burner. It is advisable to have all gas appliances serviced annually to pre-empt any such risks.

CHIMNEYS, FLUES & WOOD BURNERS

Renovating a property sometimes involves re-instating an existing fireplace and perhaps installing a new appliance such as a woodburning stove. In most cases planning permission isn't required, unless you want to construct a new chimney stack.

However, in Building Regulations terms, new chimneys are basically regarded as small extensions, so adding a new one will require consent. But the potential for life-threatening dangers from fire and toxic fumes means that even if you are installing a stove in an existing fireplace or lining a flue the work must comply with the Building Regulations (Part J deals with combustion appliances). Note that, by law, the installation of heat producing gas appliances (e.g. gas fires) must only be carried out by a Gas Safe registered engineer, who must notify Building Control.

Chimneys

Because chimney masonry is highly exposed to extreme heat and potentially corrosive flue gases it tends to require more frequent maintenance than the main walls lower down the property. Work should be carried out using suitable access equipment (see 'Roofs'). There are several areas where periodic attention to chimneys may be required:

Re-pointing

The most common maintenance task with stacks is the need for at least partial re-pointing to the brick or stonework, or re-rendering.

Flaunching

The flaunching is the mass of mortar at the base of the chimney pots that helps secure them in place. But after many years of exposure, flaunching can eventually crack and disintegrate.

Masonry repairs

Modern stacks incorporate a Damp Proof Course (DPC) in the lower courses to prevent any risk of water soaking down through the masonry below the roof level. But old stacks were built of relatively soft brick without a DPC. So damp can sometimes penetrate masonry just below the roofline which can suffer frost erosion and need localised repairs.

Flashings

Many leaks at roof level occur at junctions to stacks. Traditional lead flashings are the most effective method to prevent this. If your property has mortar fillets, they are best replaced with leadwork as the mortar is very prone to cracking.

Redundant stacks

Disused chimneys should be capped to restrict the ingress of rain and also properly vented to prevent damp from condensation forming within old flues.

Structural support

Old stacks are rarely perfectly vertical, so a small amount of leaning is not unusual. However where significant movement has occurred, the best advice is to consult a structural engineer. 'Stay bars' are the traditional way to secure tall or exposed chimneys, which today take the form of stainless steel tie rods and straps. Where severe distortion has occurred to a stack, the only option may be to rebuild at least the upper courses of brickwork.

Chimney pots

Where a pot is missing, or has cracked or badly spalled it will need to be replaced. To protect flues from ingress of rain, a simple stainless steel 'rain hat' with an integral bird guard can be fitted.

Flues

Flues are basically vertical exhaust pipes enclosed by the chimney breast and stack masonry. They are designed to safely transport smoke and combustion gases out to the external environment, based on the principle that warm air generated by fires naturally rises. Often multiple flues are accommodated within a single chimney with thin internal partitions.

Smoke containing combustion gases from fires is potentially dangerous to human health – both from breathing poisonous fumes and from the risk of fire. Leaks can sometimes go undetected, particularly within lofts or to adjoining houses. Also, if a flue becomes blocked – e.g. with a nest – a build-up of poisonous combustion gases will blow back, re-entering the room. It is even more dangerous where unlined flues are used for gas or oil-fired appliances that produce deadly, odourless carbon monoxide. So it's essential to check the condition of flues before lighting fires.

Flues fail for 2 main reasons:

- The acrid chemicals released in combustion gases eventually eat away at mortar joints causing cracks or holes that can allow poisonous gases to escape into rooms, lofts or adjacent flues. To prevent such dangers, active flues must be lined with the correct type of flue liner.
- Over time, soot and tar can build up inside flues, eventually igniting causing chimney fires. The solution is to have chimneys swept regularly.

The airtightness of a flue can be tested using smoke pellets.

There are a number of other issues that are sometimes encountered with flues and fireplaces:

Damp staining

Damp from rain pouring down un-capped chimney pots, or from condensing gases, can soak into loose internal masonry and bleed through chimney breast plasterwork causing ugly stains. Regular sweeping can help prevent this.

Disused flues

In most old properties today, some of the original fireplaces will be disused and boarded up. But unless chimney pots have been capped off, rain can come trickling down redundant flues causing damp patches (also caused by moist air condensing inside disused flues). Redundant pots should therefore be capped off with a vented hood fitted to the pots, with a vent also fitted to the boarded up fireplace below to encourage a healthy through-flow of air.

Structural alterations

In some properties one or more chimney breasts have been removed to make more space. Where the work has been done without Building Regulations consent, the remaining masonry above (leading up to the main stack) is often potentially dangerous as it is not fully supported. So unless a completion certificate was obtained for the work, it's advisable to contact a structural engineer to verify whether it is safe.

Air supply

The provision of a sufficient amount of oxygen both for occupants and the efficient combustion of fires and appliances is a key part of compliance with Building Regulations. In houses where draughts have been totally sealed up this may require additional air vents to be fitted to the main walls for open fires and gas appliances etc., for example, in the form of 230 x 230mm airbricks inserted in the wall.

Smoky Fires

There are several reasons why smoke can fail to safely disperse from a fireplace. Some chimneys are inherently too cold to draw well, particularly those on outside walls. Smoke will disperse more efficiently where internal flue walls are smooth – i.e. with a flue liner. Smoky fires can also be down to blocked or damaged flues (hence the need for regular sweeping), a lack of

indoor air supply, or stacks that are too short or overshadowed by surrounding buildings.

Lining flues

It's essential that flues are lined, especially if you plan to install any gas, oil or solid fuel appliance in an existing fireplace because masonry flues are inadequate to cope with these more aggressive exhaust gases. Even where a flue is already lined, old steel liners eventually suffer from corrosion. So it is a requirement of the Building Regulations that when an appliance is changed the installers must check the condition of the flue to confirm that it's clear of obstructions and is suitable for the appliance you plan to install. Flues should always be swept before fitting a stove or lining a chimney and, if necessary, a smoke test carried out to check for gas tightness. In addition, gas and oil appliances need special chimney-top terminals to prevent blockage from birds or debris and to help disperse gases.

It's essential that the flue liner is of the right type for the fire or appliance served. Flexible stainless steel liners are most widely used type as they are comparatively easy to install. Building Regulations recommend a minimum diameter of 150mm. Flexible single skinned liners are used mainly for gas fires and for oil or gas-fired boilers, whereas hardier double skinned liners are required for burning solid fuels and for wood burning and multi fuel stoves. The downside with flexible liners is they need renewal every 10 to 15 years, depending on how regularly the fire is used.

Woodburning stoves

Woodburning or multifuel stoves are far more effective at heating rooms than open fires and also boast impressive green credentials. Note however that if you live in a 'smoke control area', you're not allowed to burn fuels such as wood or coal that emit smoke, either in stoves or fireplaces (although smokeless fuels such as coke briquettes are permitted). Fortunately, some 'cleanburning' stoves approved by DEFRA are exempt. These produce low emissions when woodburning and some are also approved for use with coal.

Stoves can generate enormous heat within the flues and must never be used with flues that aren't lined. Flue gas temperatures in modern high efficiency stoves can exceed 300 degrees and unlined stack brickwork can allow as much as 85 percent of this to pass through it. This intense heat can cause adjoining thatch or roof timbers to ignite. This is why it's now a condition of installing new appliances that a suitably sturdy flue liner is fitted together with a register plate. Also, a carbon monoxide (CO) alarm must be provided in the room where the appliance is located (recommended positioning can be checked with Building Control). As an additional precaution in thatched properties temperature sensors linked to an alarm should be fitted. To maintain sufficient air supply to the room, additional air vents may be required to the main walls. Prior to commissioning the new stove, the installers should test the flue.

Wise precautions

To live in peace with your fireplace it's a good idea to follow this advice:

- Never go to bed and leave an open fire unguarded.
- Have the chimney swept annually.
- Check the condition of chimney stacks annually using binoculars.
- Check annually for smoke leakage inside the loft while the fire is lit.
- Fit a smoke alarm and CO detector in the loft.

RE-ROOFING

When it comes to renovating your home, a watertight roof is normally at the top of the list. But the need to work at height means that roofing is best carried out by specialist contractors. However, many homes have single storey extensions with flat felt roofs and these can sometimes be renovated by competent DIYers with suitable access equipment.

Consents

Normally re-instating roof coverings on a like-for-like basis will not require planning consent. But if you want to change the type of materials, or raise the profile of the roof, a planning application may need to be made.

When it comes to the Building Regulations, consent is not normally required as long as no changes are made to the structure of the roof and you replace the roof finish like for like (i.e. slate with slate, not concrete tiles) and affect no more than 50% of the roof area at any one time. However, 'Part L' of the Building Regulations requires you to improve thermal efficiency where you're renovating significant areas of the building's 'thermal envelope' (i.e. the roof, main walls or floors). This is something that commonly affects flat roofs because they need re-covering more frequently than main roofs – see below.

Condition

When it comes to assessing the condition of roofs, a good rule of thumb is to take a good look down the street at nearby houses of the same age – if a lot of these have new roof coverings, there's a greater chance that yours may also need to be re-clad in the not too distant future.

If a roof is leaking or has the odd missing tile, it may simply need some localised maintenance, rather than complete re-covering. Probably the most common cause of leaks is from defective flashings at junctions, such as to chimney stacks. Flashings are best made from lead, or failing that from modern GRP. Mortar fillets are very prone to cracking and best replaced. Valleys where roof slopes meet are another weak point and need to be cleared from time to time of accumulated leaves and debris. It should be a straightforward task for a roofer to re-fix the odd slipped or missing tile or replace any that are cracked.

Many older roofs show signs of historic settlement, but if the structure is satisfactory and there's no leakage, this can often be acceptable. However it's also not unusual for some localised re-pointing to be required to the ridge tiles running along the top of the roof where mortar joints have eroded and also to verges at the edge of roof slopes.

Popping your head into the loft can tell you a lot about the wellbeing of the property. Roof spaces should be well ventilated and are meant to be cold and draughty above the layers of loft insulation because good ventilation helps disperse any damp. Most properties built in the last 60 years have a layer of underfelt beneath the tiles as a secondary barrier against the weather.

One thing to check in older terraced and semi-detached properties, is whether the firebreak party walls are in place – as these

were sometimes omitted when originally built. If they are missing, they will need to be built up in lightweight concrete blocks or fire-resistant plasterboard.

Roof coverings

On older properties it's often the fixings that fail first, for example many old slate roofs suffer from corroded nails. The good news is, it's often possible to salvage and recycle the original slates or tiles and re-fix them.

When complete re-cladding is required, re-instating the original tile or slate coverings is normally the best option. Traditional natural slates or clay tiles found on older buildings have a much longer lifespan than today's manufactured concrete tiles, but they are more expensive. However some types of modern composite fibre slates and tiles are designed to look similar to the real thing and can be a cost-effective alternative.

Flat roofs

Felted flat roofs are notorious for having short lifespans – sometimes lasting as little as 10 years before needing re-felting. Fortunately roofing felt is relatively cheap to install. Other materials such as artificial rubber (EDPM) and fibreglass should last longer than felt and lead sheet is best of all, but is far more expensive.

As mentioned above, the Building Regulations require that insulation is upgraded when flat roofs are re-decked. The best way to do this is to strip off the old defective felt, replace the existing deck, then lay a new layer of rigid insulation boards on top of the deck, before applying the new roof covering.

This creates what is known as a 'warm roof' but means the height is raised slightly with consequent detailing issues at junctions. Alternatively, insulation can be laid above the ceiling below between the joists as a 'cold roof', but you need to allow at least 50mm ventilation space above the insulation and this will need to be ventilated on opposite sides of the roof. Flat roofs must be laid to a suitable angle or 'fall' so the rainwater can discharge into the guttering and care must be taken to ensure junctions at upstands etc. to adjoining walls are watertight. A surface layer of reflective stone chippings is often applied to protect the roof from the effects of UV sunlight.

Access/safety

Falls from height are responsible for many serious and fatal injuries every year. The Working at Height Regulations are designed to prevent such injuries and apply to work carried out two metres or more above ground level. Scaffolding is normally required for roof work and needs to be erected by a 'competent person'. Ladders are only acceptable for access or work of short duration. Other types of access equipment include mobile elevated platforms and scaffold towers.

LIGHTING

Although the Building Regulations are concerned with matters such as electrical safety and energy efficiency, they don't normally apply where you're simply changing bulbs or light fittings. However, for bigger renovation projects, such as adding a new bathroom, there are certain rules that need to be followed (see below).

Either way, it makes sense to fit the most energy efficient replacement bulbs possible to help reduce bills. LED bulbs are the best option because they're highly energy efficient. Although relatively expensive to buy, LEDs produce a negligible amount of heat and consume a fraction of the energy used by conventional bulbs and last up to 20 times longer – about 50,000 hours.

The next best option in terms of energy consumption and lifespan are compact fluorescent (CFL) bulbs. However, these can take a couple of seconds to light and up to three minutes to attain full brightness, so they may not be suitable for locations such as staircases where immediate full illumination is required. They work best in areas where lights are left on for long periods.

As a general rule, it's best to choose replacement bulbs rated at 55 lumens per watt or higher. This is three times more efficient than conventional halogen or incandescent lighting and should last at least three times as long, which helps justify the higher price.

What type of bulb?

There are three main types of bulbs in addition to LEDs:

Incandescent

The oldest of the bulb technologies, incandescent lamps work by heating a thin wire element within a glass bulb. They are cheap to buy, but expensive to run and don't last as long as other types. Incandescent spotlight bulbs have a built in reflector to concentrate the light in one direction.

Halogen

Halogen bulbs are a form of incandescent bulb containing halogen gas to increase the life of the bulb, but are more expensive to buy. Halogen downlights in ceilings are popular for lighting living areas, kitchens and bathrooms because they can provide even, gentle, low shadow lighting. Some types have adjustable bulbs or 'eyeball' spotlights which can illuminate specific areas in a room. Downlights can be mains powered or low voltage (typically 12 volts). But 'low voltage' does not mean high efficiency because the transformer can waste a lot of energy, so in fact they use more electricity than conventional installations, although low voltage bulbs last longer.

Fluorescent

Fluorescent lamps have come a long way since the long, thin, tubes used in strip lights. Smaller modern Compact Fluorescent Lamps (CFLs) can be used as replacements for conventional incandescent bulbs. But the wattage quoted is not the same as for incandescent lamps. A rough guide would be as follows:

Incandescent	100W	75W	60W	40W
CFL equivalent	25W	18W	13W	9W
Lumens	1,600	1,100	800	450

Fluorescent lamps use a lot less electricity when run for long periods and last up to 10 times longer than the ordinary incandescent variety. But they use a lot of current when first switched on so are not very efficient in places where lights are only used for a short time.

Lighting design

When planning the lighting for your home there are 3 basic types:

General Lighting

This is the overall 'ambient light' that you need to compensate when natural sunlight isn't up to the job. It's usually provided by ceiling pendants, chandeliers or downlighters.

Task lighting

This is for illuminating an area for a particular function like cooking or reading. When not required for the task, the lamp is normally switched off. Usually provided by portable standard lamps, wall mounted spot lights, desk lamps, or fixed lighting over worktops.

Accent lighting

This type of lighting is for decorative purposes or to display a particular feature such as ceiling beams or a picture on the wall. Accent lighting is often provided by wall or ceiling mounted spot lights.

Bathrooms

When fitting new lighting to bathrooms or wet rooms, there are special safety provisions that need to be observed to prevent possible electric shock. Building Regulations require that no electrical fitting of any type should be touchable from where a person could be in contact with water at the same time and should be located well away from any risk of shower spray.

"AS A GENERAL RULE, IT'S BEST TO CHOOSE REPLACEMENT BULBS RATED AT 55 LUMENS PER WATT OR HIGHER. THIS IS 3 TIMES MORE EFFICIENT THAN CONVENTIONAL"

All electrical circuits within bathrooms must be protected by Residual Current Devices (RCD). For obvious reasons no power sockets are permitted (other than for shavers). Only specially protected low voltage fittings can be installed in new or re-fitted bathrooms (see earlier section in this guidebook on 'electrics').

For ceiling lighting, shower-proof light fittings are ideal since they're also draught-proof and with LED lights installed consume minimal energy. But fittings need to comply with rules for different electrical 'zones' within bathrooms.

External lighting

Lighting fixed to an external surface is covered by the Building Regulations. External lights must be automatically controlled so they switch off in daylight – the use of sensors means they should only operate when required, automatically switching off when the lit area becomes unoccupied. Only where lamp efficacy is greater than 45 lumens per circuit-watt can they can be manually controlled by a switch.

RE-DECORATION

The most cost-effective way to transform a home is through good quality decoration. This is especially worthwhile when it comes to selling your property because many buyers are strongly influenced by first impressions. Neutral colours such as cream or plain white can make a room feel larger, ideally combined with smooth plastered wall and ceiling finishes (rather than textured).

Hazards

Decorating doesn't sound like a particularly dangerous pastime, but there are a number of potential risks:

Falls from height

Painters and decorators can often be at risk of falling. Injuries can also occur where objects fall onto people below. The 'Working At Height' legislation requires safe access, adequate edge protection and securing of tools and materials. Ladders are only acceptable in limited cases for access or work of short duration – hence the popularity of scaffold towers and mobile elevated platforms.

Fire

A significant number of major fires in old buildings have been traced back to renovation work. Flame or hot air guns are conventionally used for paint stripping but such 'hot work' is best avoided on older buildings. As well as the potential fire risk, fumes from burning lead paint are hazardous.

Asbestos

Asbestos is extremely common in relatively harmless cement sheeting form and is often found in areas such as eaves (soffits), boiler cupboards, corrugated roofs to outbuildings, or more rarely to ceilings and pipe insulation etc. Small amounts of fibre

are also present in some textured ceiling finishes. It is only potentially dangerous to health where tiny airborne particles are inhaled, so any form of sanding, cutting or drilling must be avoided for example when stripping textured paint. However, as long as the fibres are not breathed in there shouldn't be any significant risk. But note that asbestos cement roofing cannot support much weight and must not be walked on.

Lead

Paint containing lead-based pigments was commonly applied to joinery and metalwork and remained in use until the 1960s. Lead-rich dust particles are harmful if inhaled so the use of power sanders should be avoided. Where old paintwork needs to be rubbed down it's important to wear masks, goggles and gloves and avoid burning off paint and breathing in toxic fumes. Instead, surfaces should be prepared by hand with wet sanding.

Preparation – stripping and plastering

A large number of walls and ceilings in UK homes are covered with woodchip wallpaper or anaglypta. Thousands more acres are entombed behind thick layers of artex or polystyrene tiles. Wallpaper steamers and scrapers can be very effective at removing such old decorative finishes.

"WHERE SURFACES ARE MORE SEVERELY DAMAGED, OR ARE GENERALLY ROUGH AND UNEVEN, THE BEST SOLUTION IS TO APPLY A COAT OF SKIM PLASTER FINISH UP TO 3MM THICK TO THE WHOLE WALL"

Surfaces suffering from flaky paint or small hairline cracks may only require the application of a painted base coat, prior to lining or emulsioning. But where there are distinct areas of damage 'patch repair' plasters will need to be applied – for example where holes have been cut for pipes or cable runs, or where the plaster has 'blown' – i.e. 'lost its key' and come loose.

Where surfaces are more severely damaged, or are generally rough and uneven, the best solution is to apply a coat of skim plaster finish up to 3mm thick to the whole wall. But plastering is a deceptively difficult art to master. There are a number of DIY plaster products on the market for 'smoothing over' textured surfaces and for cracked or damaged walls. These claim to be able to achieve 'a perfectly smooth surface that's ready to paint'. But for larger areas they can work out relatively expensive, so it may be a better idea to employ a professional plasterer. Note that plastering external walls may require Building Regulations approval and the provision of thermal insulation.

Building Regulations and thermal efficiency

Where the 'envelope' of a building is due to be replaced or renovated (i.e. the walls, roof or floors), minimum insulation standards will apply. A thermal element counts as being renovated if any layer of its construction is replaced or added to (although this doesn't extend to straightforward re-decoration work). This applies where the work covers 50% or more of the total area of the individual element, (such as one external wall facade) or where the work covers more than 25% of the area of the total envelope of the whole building.

In any case it makes sense to take the opportunity to improve insulation prior to decorating. Better insulated homes should be cheaper to heat and less draughty, so this is money well spent.

INSULATION

Insulating walls and floors

The main walls are responsible for 35% of the heat loss from a typical dwelling. So upgrading them should significantly reduce a property's energy consumption. Most homes built in the last 75 years or so have cavity walls which are relatively easy to insulate. But traditional solid walls in older buildings can also be upgraded by lining them with insulation either internally or externally. Only the main external walls need upgrading, so less work is needed with terraced properties.

In most cases you won't need to apply for planning consent – even cladding the outer face of the walls is now classed as 'Permitted Development'. However the Building Regulations set minimum standards for thermal efficiency where walls, roofs and floors are renovated, although contractors can normally 'self-certify' any major works.

Cavity wall insulation

This is one of the most cost-effective types of insulation, typically paying for itself from savings in energy bills in as little as two or three years. The work can be carried out with virtually no disturbance by specialist contractors. Insulation is pumped into the cavity via a series of small holes drilled in mortar joints in the outer face of the wall which are sealed up afterwards. Once the works are done, a 'CIGA' guarantee should be provided by the contractor along with a Building Control completion certificate. However, not all homes are suitable for cavity insulation, such as timber frame buildings and those with solid walls.

External wall insulation

Applying insulation to the outside of the walls can be very effective in boosting thermal efficiency. This has the additional benefit of improving the appearance of bland-looking properties, but is not normally suitable for older buildings with attractive period brick or stonework facades. It's also important that traditional solid walls are able to 'breathe' so that moisture is free to evaporate away and covering the outsides can potentially trap damp.

The works typically involve fixing rigid insulation boards to the outer face of the walls with special adhesives and fixings, followed by 2 coats of render. Making walls thicker involves a lot of work modifying window and door openings, roof overhangs, rainwater downpipes, plus any lights, pipework and satellite dishes etc. But it's the need for scaffolding that makes this a relatively expensive option. External wall insulation is often applied to complete blocks of houses or flats being refurbished together.

External solid wall insulation also carries significant risks and should only be carried out by a competent firm who have undertaken a full professional survey of the property. This survey should include a review of the existing building ventilation, as preventing the walls from 'breathing' can have serious adverse effects on the internal air quality of the building. Where an installation is carried out, any areas that are missed or badly detailed can form a 'condensation trap' which will result in internal dampness and mould growth. Installation should never be carried out to solid walls during winter when the walls are damp as this will trap moisture in the structure which will then make its way into the building. Be wary of cheap quotes for external wall insulation – badly designed and implemented work can result in major damage to your building and indoor air quality.

Internal wall insulation

Lining the inside of the main walls in your home can achieve worthwhile improvements in thermal efficiency and can also be a suitable project for DIY. The main drawback is the disruption involved in removing and later re-instating things like skirting boards, shelving, radiators, sockets and switches. As with external insulation, getting the detailing right can be tricky, e.g. around windows. Inevitably lining the walls entails a small loss of floor space and it may not be suitable for rooms with period features or in buildings where walls are damp.

The works typically involve fixing insulation quilt or rigid boards to the walls with special adhesives or applying insulation to a timber framework, followed by plasterboarding. But lining the walls has the added advantage of providing a smooth new surface to decorate.

As with external insulation the consequences of creating 'cold spots' can be severe and the building ventilation should be reviewed before any works are carried out.

Insulating floors

The ground floors in a typical home account for around 15% of the building's total heat loss. This is less than the amount lost through roofs and walls, but is still significant.

Solid concrete floors are relatively difficult to insulate because laying a new insulated 'floating floor' on top of the existing surface raises the floor level, with all kinds of knock-on effects to doors and stairs etc.

However, upgrading the thermal efficiency of traditional suspended timber floors can be relatively straightforward. The simplest and cheapest option is to carry out draught-

proofing. This should be a straightforward DIY project that involves sealing gaps between floorboards, to skirting boards and around pipes etc with silicone sealant or rubber strips.

However, where you're planning to strip and polish the floorboards it's an excellent opportunity to insulate them. This can either be done from above, by temporarily removing all the boards, or from below if you can get access to the void below by removing just 2 or 3 boards. There are a number of different ways floors can be insulated, for example rigid insulation can be wedged between joists and secured on battens, or mineral wool quilt batts can be held in place with plywood strips or sheets of breather membrane stapled underneath to the joists.

Where insulation is added to suspended floors it is critical that the sub-floor ventilation is adequate. A floor void of at least 150mm should be maintained and ventilated by air bricks at frequent intervals on opposite sides of the void. Ensure any walls within the floor void do not prevent airflow and that any existing air bricks have not been blocked.

Alternatively, boarding over floors with hardboard and laying a thick carpet can work wonders in banishing cold draughts.

OUTDOORS

Making improvements to the gardens and space surrounding a property can provide the finishing touches that complete a home renovation project. This is an area where the Building Regulations don't usually apply (except for some larger outbuildings and things like oil and gas tanks). However planning consent is sometimes required.

Fences

The Permitted Development Rules normally allow you to erect fences, walls and gates without the need for planning consent (up to 1 metre high next to a road, or 2 metres high elsewhere). You are also normally allowed to demolish or alter existing fences, walls and gates without consent. But as always, there are exceptions, notably for Listed buildings and in Conservation Areas or where boundary restrictions have been imposed, so check first.

Planting hedges is also permissible unless they could block a driver's view or are restricted by an existing planning condition, perhaps dating back to the time the house was built. But trees and hedges may be protected under a preservation order (and are automatically protected in Conservation Areas) or there may be a legal restriction preventing them from being cleared and uprooted. Also some housing estates with open plan front gardens have restrictive covenants on the deeds that restrict new planting and fencing.

Drives

Adding a parking space to your property can be a major improvement. But there are a number of areas where this will need to comply in terms of planning.

Where you want to construct a new car access, such as a drop kerb to form a

driveway from the road, there are potential safety issues so consent will be required. Separate approval is required where a new driveway would cross a pavement or verge. Both the Planning and Highways Authorities may need to provide consent and in some cases specify how the works are to be undertaken. Even widening your existing driveway can require permission where a property faces a trunk or classified road.

You also need to apply for planning permission if the hard surface is not to be used for domestic purposes and, for example, is to be used for parking a commercial vehicle or storing goods for a business.

A more recent addition to planning law concerns paving over of front gardens. The 'SUDS' rules (Sustainable Urban Drainage Systems) are designed to reduce the risk of flooding and pollution of watercourses by reducing the amount of water running off driveways directly into urban drains.

Any new driveway larger than 5m^2 being constructed, repaired or extended, must now comply with SUDS regulations. This means using a permeable paving system that lets rain soak into the subsoil where it can drain harmlessly away.

So planning permission is now required to lay traditional impermeable driveways that allow uncontrolled runoff of rainwater onto the roads. Planning permission is NOT required if any of the following apply:

- The hard surface is constructed using a permeable material such as gravel, 'grass-guard', porous asphalt or permeable paving.
- The area of hard surface intended is less than 5 sq metres to the front garden (there are no restrictions elsewhere around the house).
- Provision is made for rainwater from traditional impermeable hard surfaces to drain into permeable soft landscaping such as grass or border planting or into a specially constructed soakaway. As long as the surface water created by a driveway drains within the boundaries of the property (i.e. doesn't run off onto a public highway) then planning permission is not required regardless of the materials used.

Patios

Laying a new patio does not generally require Planning consent. Other than the 'SUDS' rules for paving over front gardens to more than 5m^2, there are no planning restrictions on the area of land around your house which you can cover with hard surfaces at, or near, ground level. However, significant works of embanking or terracing to support a hard surface might need a planning application.

Inevitably, if you live in a Listed building, you will need Listed building consent for any significant works (both internal or external) and in Conservation Areas there are restrictions on works to the front or visible from the road.

Building Regulations approval is also not normally required for laying patios. But you need to make sure that any works don't make access to the dwelling less satisfactory than it was before, for example, by building steps where none previously existed. Also if you intend to provide any electrical lighting etc to the outside areas, then a Building Regulations application may be required for the electrical work (See 'Electrics').

Decking

Timber decking has been a popular addition to many a garden for some years. As with patios, it doesn't normally require Planning consent – as long as it's no more than 300mm above ground level (measured at its highest point) and doesn't cover more than half the original garden.

In Building Regulations terms, decking is defined as 'a raised platform attached directly to the property'. Only where decking is built above ground floor level or there's a difference in level of more than 600mm between the platform deck and the lowest ground level, could a Building Regulations application be required. So for example a beer garden on stilts would need consent, but only if it connects directly with your house.

Sheds, outbuildings and garden offices

A simple way to add space is to erect a ready-made new structure in the garden. A new shed or perhaps a studio, gym or playroom can be an attractive proposition.

To comply with Permitted Development Rules, sheds and outbuildings must be single storey with a maximum height of 4 metres at the ridge if the roof is pitched, or 3 metres for flat roofs. Where located within 2 metres of a boundary the height limit is 2.5 metres.

You can't build them to the front of the property and they must be used in association with the house (i.e. not run independently). Perhaps surprisingly, there are no size limits – other than the footprint mustn't cover more than half the total area of the original garden (the garden means the whole plot excluding original house). But as always, check with the Planners first, as Permitted Development Rights may not apply for some properties.

Building Regulations won't normally apply unless you

- Use it for sleeping accommodation
- It is more than 30m^2
- It is less than 1m from a boundary and constructed of combustible material.

Conclusion

In this guide we've looked at some typical home renovation projects, focussing primarily on how they relate to Planning and Building Control. Hopefully the information has been useful.

To find out more about any issues raised and to find out how to go about obtaining consent for a home improvement project that you're considering, you are welcome to contact us.

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